ORDER

6140.15

PROJECT IMPLEMENTATION PLAN FOR THE
MAINTENANCE PROCESSOR SUBSYSTEM (MPS)
ENHANCEMENTS

November 9, 1988

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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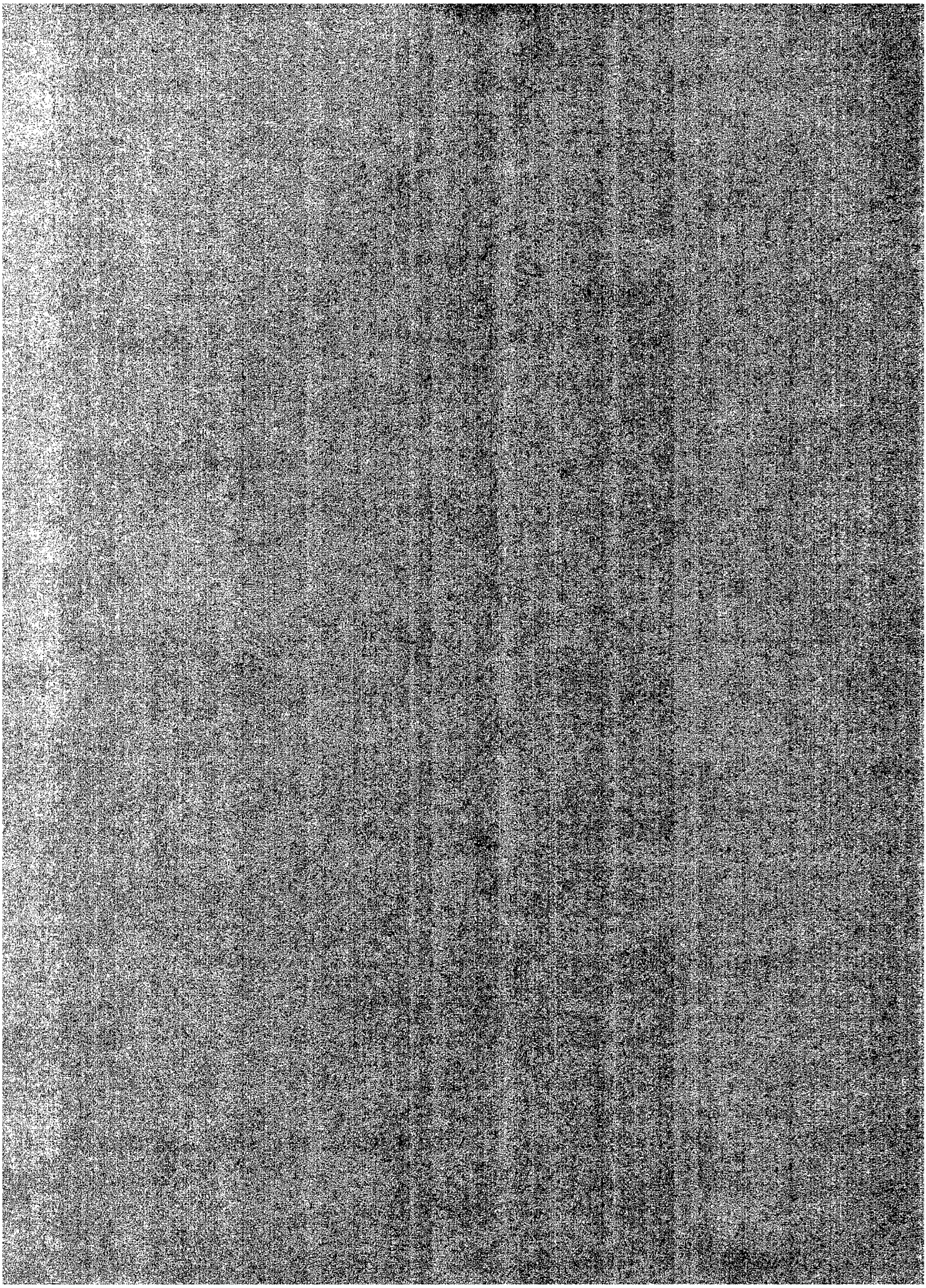

FOREWORD

This order directs affected Federal Aviation Administration (FAA) organizations to take the action(s) necessary to implement Remote Maintenance Monitoring System (RMMS) Maintenance Processor Subsystem (MPS) enhancements, including related hardware and software. It identifies associated activities, responsibilities, schedules and funding. The implementation of enhancements to the MPS fulfills part of National Airspace System (NAS) Plan Project 6-01, Remote Maintenance Monitoring System. Management responsibility for this project has been assigned to the Maintenance Automation Program (map), Navigation/Landing and Facility Monitoring Division, APS-400. Support and coordination with other agency organizations is essential for the successful implementation of enhancements to the MPS.

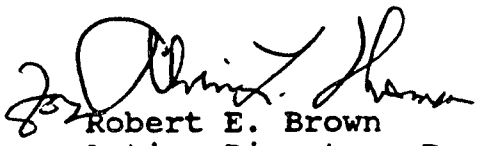

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TABLE OF CONTENTS

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

Page No.

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1. GENERAL

1. PURPOSE. This order identifies the activities, responsibilities, schedules and available/required funding for implementing the enhancement of the existing Remote Maintenance Monitoring System (RMMS) maintenance processing subsystems (MPS).

2. DISTRIBUTION. This order is distributed to branch level in the Program Engineering, and Systems Maintenance Services in Washington headquarters; to branch level in the regional Airway Facilities division; to division level at the Mike Monroney Aeronautical Center and FAA Technical Center; and to selected Airway Facilities field offices.

3. CANCELLATION. Order 6140.3, System Program Plan and System Implementation Plan, En Route Maintenance Processor Subsystem, Remote Center Air-Ground/Remote Monitoring Subsystem, dated April 9, 1982 is canceled.

4-19. RESERVED.

CHAPTER 2. PROJECT OVERVIEW

20. SYNOPSIS. Implementation of the FAA's Remote Maintenance Monitoring System (RMMS) is central to the agency's plans for modernizing maintenance operations. The maintenance processor subsystem (MPS) is the highest-level, primary RMMS processing resource, centralized at designated air route traffic control centers (ARTCC), general NAS (GNAS) sectors and national support sites throughout the United States. This project implementation plan (PIP) covers the nationwide implementation of enhancements to the presently-deployed MPS's.

21. PURPOSE. The purpose of this project (NAS Plan 6-01) is to enhance the installed base of MPS hardware and software by implementing MPS hardware and software enhancements. This is required to satisfy the processing demand imposed by recently-released MPS-resident maintenance management, and monitor and control functions, and to support growth of the initial RMMS into 1995. This is an interim measure to accommodate and exploit both new and planned system capabilities. End-state RMMS processing requirements will be accommodated through final MPS enhancements, upgrades or replacements to be implemented by the year 1995.

22. HISTORY. The RMMS is being developed and fielded to automate and centralize maintenance operations throughout the NAS. The objective is to provide a less manpower-intensive and more cost-efficient means of performing, managing and recording maintenance operations. The purpose of the RMMS is to monitor, control and certify the performance of NAS equipment and facilities from centralized, consolidated work centers, and to provide the record-keeping and information processing capabilities necessary to support efficient and cost-effective management of FAA maintenance operations (see FAA-E-2782, (RMMS Core System/Segment Specification) dated July 14, 1986 for a full description of RMMS and subsystem functions). The RMMS is to be emplaced in the NAS in three phases. The first phase was completed in 1985. It provided the basic RMMS network by deploying and implementing a total of thirty-eight MPS's over twenty-three ARTCC's, ten GNAS sectors, and five field support sites. The second phase is now in progress, and will provide

required interim RMMS capabilities until the year 1995. It provides enhancements to the basic RMMS network, including hardware and software upgrades to the MPS, implementation of maintenance data terminals (MDT), and implementation of retrofit or embedded remote monitoring subsystems (RMS). This phase also includes a selected release of MPS-resident applications software. Maintenance Management System (MMS) software was developed by APS-410 to support automated data logging and maintenance management functions. It is currently being distributed to all MPS sites by ASM-160. An interim monitor and control software (IMCS) release is being performed by ASM-160. It provides an interim capability to perform monitoring, control and certification functions at NAS facilities to which RMS's have been retrofit, or in which they are embedded. The third phase is slated to emplace the end-state RMMS by the year 1995.

23-29. RESERVED.

CHAPTER 3. PROJECT DESCRIPTION

30. FUNCTIONAL DESCRIPTION. The functional requirements associated with MPS enhancements are described in detail in FAA-E-2782, (RMMS Core System/Segment Specification), dated July 14, 1986, and NAS-SS-1000, NAS System Specification, Volume 5, dated December 1986. The functions of each MPS enhancement are described herein for the processors, disk storage, magnetic tape drives, processor cabinets, communications equipment, power supplies and printers that together comprise the enhancements to the MPS.

a. Processor Enhancements. MPS processing capacity is being enhanced to allow applications to run more efficiently and increase throughput.

b. Disk Storage Enhancements. MPS disk storage capacity is being expanded to meet MMS data storage and backup requirements.

c. Magnetic Tape Drive Enhancements. Magnetic tape drives are being expanded to meet increased data storage requirements and provide increased throughput.

d. Cabinet Enhancements. Existing processor cabinets are being modified, and additional cabinets are being installed to contain additonal processing capacity.

e. Communications Subsystems Enhancements. Communications capabilities are being enhanced to provide additional maintenance data terminal (MDT) and RMS inputs while increasing communications throughput.

f. Additional Power Supplies. Power supplies will be added to support additional equipment requirements.

g. Printer Enhancements. The number of printers is being expanded by the addition of high-speed printers at selected sites to handle additional current and projected system output requirements.

h. Fiber Optic Extension. MPS-to-MPS communications at the FAA Technical Center (collocated sites) are being expanded through the use of fiber-optics communications to provide resource sharing.

31. PHYSICAL DESCRIPTION. The physical characteristics of each MPS enhancement hardware component are described in this paragraph. The Tandem product identification and the item numbers, used in the installation schedule presented in appendix 1, are given for each component. All cables connecting MPS enhancement equipment to the existing MPS components will be provided by the MPS contractor unless otherwise identified in this PIP. Alternating current (ac) power supplies (cabling, outlets, receptacles) will be provided by the sites as described in chapter 7.

a. Processor Enhancements. The processor enhancements described below will be provided and installed by the MPS contractor as described in chapter 7 of this PIP. Distribution of MPS processor enhancements to ARTCC's, GNAS's and FAA support sites is described in paragraph 34 herein. Integration of enhancements can be in upgraded, existing (modified) or new system cabinets, as applicable.

(1) Tandem NonStop TXP Processor with 8-MB Memory (Item 6001). Each processor (product identification 1435) comprises the following boards, which will reside in existing system cabinets.

(a) Instruction processing (IP) board.

(b) Sequencer and control store (SQ).

(c) Channel and diagnostic data transceiver (CC).

(d) Memory control (MC).

(e) One 8-megabyte (MB) memory board.

(2) Additional 2-MB Memory Module for Tandem NonStop II (Item 6002). The 2-MB memory module (product identification 2422) is a board consisting of 400-nanosecond semi-conductor memory with error detection and correction. It comprises a base assembly with 532 64-Kilobyte (KB) dynamic random-access-memory (RAM) devices installed. The module will reside in existing Tandem NonStop II processors.

(3) Operation and Service Processor (OSP) Enhancement (NonStop II to TXP) for Tandem Operations and Service Processor (Item 6003). An operation and service processor (OSP) enhancement (product identification 1G/1H) is required with NonStop TXP's. To achieve the upgrade, the existing OSP system maintenance processor (SMP) board in the OSP cabinet will be replaced with a new SMP board. The new SMP board will enhance the existing OSP (product identification 3910) to support diagnostics on the Tandem NonStop TXP, as well as on Tandem NonStop II processors. NonStop II processors shipped prior to 10/1/83 will receive OSP product identification 1G. NonStop II processors shipped on or after 10/1/83 will receive OSP product identification 1H.

(4) Cabling Supplied. Two signal cables will connect each NonStop TXP 8-MB memory board to the NonStop TXP processor (see (1) and (1) (e) above).

(5) Physical Dimensions. The physical dimensions for processor enhancements (boards) are expressed as integrated in system cabinets, the dimensions for which are presented in paragraph d.(3) herein.

b. Disk Storage Enhancements. The disk storage enhancements described below will be provided and installed by the MPS contractor as described in chapter 7 of this PIP. Distribution of MPS disk storage enhancements to ARTCC's, GNAS's and FAA support sites is described in paragraph 34 herein.

(1) Tandem XL8 Disk Drive (Item 6004). Each XL8 disk drive (product identification 4130) contains eight 415-MB (520 MB, unformatted) Winchester disk drives with permanently-mounted 8-inch disks in its own, stand-alone mounting cabinet, supplied with the disk drive. Each disk head assembly is contained in a sealed plug-in module with its own power supply. Average seek time is 15 milliseconds (ms); average latency time is 9.8 ms; the transfer rate is 1.86 MB/second.

(2) Tandem XL Disk Controller (Item 6006/6007). Each XL disk controller (product identification 3108-1 or 3108-2) is microprocessor-operated with a 4-KB buffer. It consists of two printed circuit boards (PCB), the channel interface PCB and the disk interface PCB, located in the existing or new system cabinet.

(3) Tandem XL4 Disk Drives (Item 6017). Each XL4 disk drive (product identification 4134) contains four 415-MB (520 MB, unformatted) Winchester disk drives with permanently-mounted 8-inch disks in its own, stand-alone mounting cabinet, provided with the disk drive. Each disk head assembly is contained in a sealed plug-in module with its own power supply. Average seek time is 15 ms; average latency time is 9.8 ms; the transfer rate is 1.86 MB/second.

(4) Tandem Add-In Disk Pair (Item 6018). An add-in disk pair (product identification 4131) contains two 415-MB (520 MB, unformatted) Winchester disk drives with permanently-mounted 8-inch disks to be installed in XL4 disk drive cabinets to upgrade from an XL4 to an XL6, or in XL6 disk drive cabinets to upgrade from an XL6 to an XL8. Each disk head assembly is contained in a sealed plug-in module with its own power supply. Average seek time is 15 milliseconds (ms); average latency time is 9.8 ms; the transfer rate is 1.86 MB/second.

(5) Physical Dimensions.

Component	Height (inches)	Width (inches)	Depth (inches)	Weight (pounds)
Tandem XL8 Disk Drive	55.0	24.25	36.5	991.0
Tandem XL4 Disk Drive	55.0	24.25	36.5	680.0

(6) Cabling Supplied. The following cabling will be supplied by the MPS contractor to achieve installation of the MPS disk storage enhancements.

(a) The following will be used to connect the 3108-1 and 3108-2 XL disk controller to the Tandem 7806 and 7807 patch panels.

1. Tandem 31C-16 control cable.

2. Tandem 42C-50 control cable.

3. Tandem 31D-16 data cable.

4. Tandem 42D-50 data cable.

5. Tandem 42T-2 disk terminator.

(b) A Tandem 42D-50 data cable will be provided by the MPS contractor for the add-in disk pair to connect the disk controller to the patch panel.

c. Magnetic Tape Drive Enhancements. The magnetic tape drive enhancements described below will be provided and installed by the MPS contractor as described in chapter 7 of this PIP. Distribution of MPS magnetic tape drive enhancements to ARTCC's and FAA support sites is described in paragraph 34 herein.

(1) Tandem Tape Drive, 125 IPS (Item 6008). Each tape drive (product identification 5104-B) is a single-capstan vacuum chamber, 9-track tape drive which operates at 125 inches per second (IPS). A switch selects either 800 bits per inch (BPI) non-return to zero inverted (NRZI) format, or 1600 BPI phase encoding (PE) format. Rewind speed is 300+ IPS. The tape drive uses 10.5 inch tape reels. It includes a mounting cabinet.

(2) Tandem Magnetic Tape Controller (Item 6009). One magnetic tape controller board (product identification 3207) will be supplied for each 125 IPS tape drive to support enhanced Tandem tape drive operations (see item 6008 above). The controller board will reside in the input/output (I/O) chassis of the system cabinet.

(3) Tandem High-Performance 200 IPS Tape Subsystem (Item 6019). Each high performance tape subsystem (product identification 5130-1) is a single-capstan vacuum chamber that operates at 200 IPS. The drive can read and write American National Standard Institute (ANSI)-compatible tapes at 1600/6250 BPI. Rewind speed is 300+ IPS. The drive accepts either tape cartridges or reels for automatic loading. It will include a mounting cabinet and a Tandem 3208 external tape controller which will reside in the I/O chassis of the system cabinet.

(4) Physical Dimensions.

Component	Height (inches)	Width (inches)	Depth (inches)	Weight (pounds)
125 IPS Tape Drive	72.0	30.0	32.2	360.0
200 IPS Tape Drive	55.0	39.4	29.7	860.0

(5) Cabling Supplied. The following cabling will be supplied by the MPS contractor to achieve installation of the MPS tape drive enhancements.

(a) One of each of the following will be used to connect the 5104 125-IPS tape drive to the 3207 tape controller.

1. Tandem 58482 control cable.

2. Tandem 513316 data cable.

(b) One of each of the following will be used to connect the 5130 200 IPS tape drive to the 3208 tape controller.

1. Tandem 323-16 control cable.

2. Tandem 513-50 data cable.

d. Additional Cabinets. Tandem NonStop TXP cabinets and expansion cabinets will be provided to support the implementation of NonStop TXP processors, as described below. Additional and expansion cabinets distribution to ARTCC's and FAA support sites is described in paragraph 34 herein.

(1) Tandem System Cabinet (Item 6010). The system cabinet (product identification 7123) is a standard-size, single-bay cabinet that accommodates twenty-four I/O controllers, and four system processing units, each having up to four memory slots. It includes Dynabus logic and I/O power circuitry.

(2) Tandem System Expansion Cabinet (Item 6028). The system expansion cabinet (product identification 7107) is required by systems that contain three or more processor

cabinets. It is a single-bay cabinet having the same appearance as system cabinets. It provides four front-mounting spaces and bus extensions for any mix of patch panels. It contains an AC distribution box and power rails for accommodating up to four I/O power supplies and four battery packs.

(3) Physical Dimensions.

Component	Height (inches)	Width (inches)	Depth (inches)	Weight (pounds)
System Cabinet	71.0	32.0	32.2	230.0
Expansion Cabinet	71.0	32.0	32.2	169.0

e. Communications Equipment Enhancements. The communications equipment enhancements described below will be provided and installed by the MPS contractor as described in chapter 7 of this PIP. Distribution of communications equipment enhancements to ARTCC's and FAA support sites is described in paragraph 34 herein.

(1) Tandem Communications Controller Board (Item 6011). The communications controller (product identification 6105-1) consists of four communications line interface processors (CLIP), each of which contain a microprocessor and 64 KB of memory to support one communications line. The communications controller provides link-level support to the processor. The controller will support ATP 6100 point-to-point asynchronous protocol, and the 6100 advanced data communication and control procedure (ADCCP) synchronous protocol. It includes a 6165-1 patch panel insert (item 6012), capable of supporting up to three controllers.

(2) Tandem Asynchronous Communications Controller Extension Board (Item 6013). The asynchronous extension board (product identification 6304-2) will increase the capability of the existing Tandem 6303 asynchronous communications controller, by adding support for up to fifteen half-duplex lines. One Tandem 7501 asynchronous patch panel (item 6014) will be supplied with each extension board.

(3) Tandem Asynchronous Communications Controller Board (Item 6015). Each asynchronous communications controller (product identification 6106) is a dual-ported,

micro-programmable I/O controller. It connects up to sixteen asynchronous data communication lines to the I/O channels of the Tandem NonStop II and Tandem NonStop TXP. A Tandem SBS-16 patch panel insert will be provided with each controller.

(4) Tandem Communications Subsystem (Item 6029). The communications subsystem (product identification 6101E) will accommodate up to fifteen line interface units (LIU). It will include two Tandem communications subsystem add-on boards (product identification 6102, item 6029A) which will expand the subsystem to accommodate up to forty-five LIU's. Thirty-seven Tandem LIU Boards (product identification 6120-1, item 6029B) will be provided with the subsystem. They are capable of supporting RS-232-C and V.24/V.28 electrical interfaces, as well as full duplex asynchronous (50 bps to 19.2K bps), byte-synchronous (up to 19.6K bps), and bit-synchronous (up to 56K bps) communications. Eight Tandem LIU-4 boards (product identification 6140-1, item 6029C) will be provided with the subsystem. They are capable of supporting up to four asynchronous lines (50 bps to 19.2K bps) with RS-232-C and V.24/V.28 electrical interfaces.

(5) Physical Dimensions.

Component	Height (inches)	Width (inches)	Depth (inches)	Weight (pounds)
Communications Subsystem	73.0	33.03	36.0	736.0

(6) Cabling Supplied. The following cabling will be supplied by the MPS contractor to achieve installation of the MPS communications subsystem enhancements.

(a) To connect each 6105 communications controller to the patch panel: one Tandem 60-16 signal cable.

(b) To connect each asynchronous communications controller extension board to the patch panel: four Tandem 63B-16 signal cables.

(c) To connect each asynchronous communications controller board to the external RS-232-C and 20 milliampere (ma) current loop communications lines: one Tandem 60-16 signal cable.

f. Additional Power Supplies. The additional power supplies described below will be provided and installed by the MPS contractor as described in chapter 7 of this PIP. Distribution of additional power supplies to ARTCC's and FAA support sites is described in paragraph 34 herein.

(1) Tandem Input/Output (I/O) Only Power Module (Item 6016). Each power module (product identification 7301) will provide additional direct current (DC) power for I/O controllers in systems where extensive I/O capability requires more power than can be provided by the processing unit power modules.

g. Printer Enhancements. The printer enhancements described below will be provided and installed by the MPS contractor as described in chapter 7 of this PIP. Distribution of enhanced printers is to FAA support sites, as described in paragraph 34 herein.

(1) Tandem High-Performance Dot-Matrix Line Printer (Item 6020). The dot-matrix printer (product identification 5518) is a heavy-duty printer designed for high-volume applications. It prints 1200 lines per minute in normal mode, and 1600 lines per minute in a low-resolution mode. It will include the Tandem 55M004 Roman-8 font, Tandem 55M011 high-speed draft quality 7-bit USASCII font, and the Tandem 55M102 Roman-89 character font. The printer will include a remote line printer system, consisting of a transmitter (product identification 55 FX) and a receiver (product identification 55 FR), which allows data conversion from parallel to serial and back, for transmission through dedicated communications links.

(2) Tandem High-Speed Serial Matrix Printer (Item 6027). The serial matrix printer (product identification 5520) is a table-top unit supporting either front or bottom forms loading. It will be supplied with, and mounted on, a Tandem pedestal/paper receptacle (product identification 7203, item 6027A). Printing speed is 340 characters per second, at a nominal 125 lines per minute using all 132 columns.

(3) Physical Dimensions.

Component	Height	Width	Depth	Weight
Dot Matrix Printer	43.3	38.7	25.0	465.0
Serial Matrix Printer	8.4	26.5	23.4	67.0
Printer Pedestal (for Serial Matrix Printers)	26.0	32.0	24.0	12.0

(4) Cabling Supplied. The following cabling will be supplied by the MPS contractor to achieve installation of the MPS printer enhancements.

(a) To connect the 5518 dot-matrix printer.

1. One power cable (printer to power).

2. One Tandem signal cable (76-A) (printer to controller).

(b) To connect the 5520 serial matrix printer.

1. One power cable (6D-25) (printer to power).

2. One signal cable (printer to communications port).

h. Fiber Optic Extension. The fiber optic enhancements described below will be provided and installed by the MPS contractor as described in chapter 7 of this PIP. Distribution of fiber optic enhancements is to the FAA Technical Center as described in paragraph 34 herein.

(1) Tandem Fiber-Optic Extension (FOX) (Item 18). The fiber-optic extension (FOX) (product identification 6700) is a system-to-system link between two MPS's. It contains two sets of boards for each fiber optic link installation.

(2) Tandem Fiber-Optic Cable Terminator Kit (Item 18A). The kit (product identification 7619) will contain fiber-optic cable connectors (ten SMA-906 connectors per kit) to terminate the 100-micron optical cable.

(3) Cabling Supplied. Not applicable.

32. SYSTEM REQUIREMENTS. The system requirements for the MPS enhancement are described below in terms of operating environment, and power requirements. The environmental requirements for storing equipment are the same as the computer room within which the equipment will be operated.

a. Environmental Requirements

(1) Humidity. Acceptable limits of humidity for Tandem components are specified in paragraph 32.a.(2); optimum is 50% (+/- 3%) non-condensing.

(2) Temperature. Acceptable temperature limits for Tandem NonStop II or NonStop TXP components are 60 degrees Fahrenheit (F) to 85 degrees F; optimum is 72 degrees F (+/-3 degrees F). Allowable rates of temperature change can be no more than +/- 5 F per hour. Specific requirements for the major system units are identified below by item number.

Items	Description	Acceptable Ranges Temperature (F)	Humidity (%)
6005,6017	XL8 and XL4 Disk Drive	50 - 86	20 - 80
6008	125 IPS Tape Subsystem	41 - 104	20 - 80
6019	200 IPS Tape Subsystem	32 - 122	15 - 95
6010,6028	System/Expansion Cabinet	60 - 90	30 - 80
6029	6100 Communications Subsystem	60 - 90	30 - 80
6020	Dot Matrix Printer	50 - 122	5 - 95

Items	Description	Acceptable Ranges Temperature (F)	Humidity (%)
6027	Serial Matrix Printer	50 - 100	20 - 80
6026	FOX Controller	60 - 90	30 - 80

b. Power Requirements. Tandem computer components require a continuous, stable ac input power source free from electrical noise. One ac power cable will be installed by the site for each cabinet containing a power distribution unit (see paragraph 71 for site preparation requirements). Power will be provided via a 5-wire, 3-phase, 208-volt, 60-Hz source. Voltage between phase lines is a nominal 208 volts; voltage between a phase line and neutral is a nominal 120 volts. The main circuit breakers in each system cabinet are rated at 40 amperes (amps). The corresponding breakers installed in the computer room power panel must be rated at 40 amps. Circuit breakers protecting service equipment outlets must be rated at 15 amps. In most cases, peripheral equipment circuit breakers are also rated at 15 amps. The following electrical specifications apply to NonStop II and NonStop TXP installations.

(1) Maximum allowable sags (any or all phases).

(a) 80% Nominal - 10 cycles.

(b) 50% Nominal - 2.5 cycles.

(2) Maximum allowable surges (any or all phases).

(a) 130% Nominal - 0.5 cycle.

(b) 120% Nominal - 1 cycle.

(c) 115% Nominal - 30 cycles at 60 Hz; 25 cycles at 50 Hz.

(3) Maximum allowable interruptions (any or all phases): 0% Nominal - 0.5 cycle.

(4) Maximum allowable steady-state power: +5% to -10% of rated voltages for the devices.

(5) Maximum allowable transients (nominal voltage = root mean square value).

(a) 100 micro-second pulse at 180% of nominal voltage.

(b) 1 milli-second pulse at 100% of nominal voltage.

(c) 8.33 milli-second pulse at 30 % of nominal voltage.

(d) 0.1 second pulse at 5% of nominal voltage.

(6) AC Outlet Requirements.

(a) Tandem XL8 Disk Drive (Item 6005) and Tandem XL4 Disk Drive (Item 6017). Each disk drive requires two standard 3-prong, twist-lock power receptacles, NEMA IG-L6-15R (15 amps, 250 volts). The two power cords from the cabinet must be plugged into separately-branched 15 amp circuits of 220 volts (+20%,-20%), 43 to 63 Hertz (Hz) each.

(b) Tandem High-Performance 200 IPS Tape Subsystem (Item 6019). Each 200 IPS tape subsystem requires one standard center-ground power receptacle, NEMA IG-L6-20R (20 amps, 250 volts). The receptacle must be within three feet of the tape drive cabinet location.

(c) Tandem 125 IPS Tape Drive (Item 6008). Each 125 IPS tape subsystem requires a 208-volt (-10/+5%), 50 or 60 Hz (+/-1), 3-phase power source.

(d) Tandem System Cabinet (Item 6010) and Expansion Cabinet (Item 6028). System cabinets and expansion cabinets require a 208-volt (-10/+5%), 50 or 60 Hz (+/-1), 3-phase power source.

(e) Tandem High-Performance Dot-Matrix Line Printer (Item 6020) and Serial Matrix Printer (Item 6027). Each dot matrix line printer requires one standard center-ground power receptacle, NEMA IG-5-15R (15 amps, 125 volts) for use with a standard three-prong plug. The receptacle must be within ten feet of the printer location.

(f) Tandem Remote Printer Interface System Local Unit (Item 6024) and Remote Unit (Item 6025). Each remote printer interface unit requires one standard center-ground power receptacle, NEMA IG-5-15R (15 amps, 125 volts) for use with a standard three-prong plug. The receptacle must be within ten feet of the printer location.

(g) Tandem 6100 Communications Subsystem (Item 6029). Each communications subsystem requires one standard center-ground power receptacle, NEMA IG-L21-20R (20 amps, 208 volts) for use with a standard four-prong plug. The receptacle must be within three feet of the communications subsystem cabinet location.

c. Equipment Separation Requirements. The separation requirements for Tandem MPS enhancement equipment are specified below (measurements are in inches).

Items	Description	Front	Back	Top	Left	Right
6005, 6017	XL8 and XL4 Disk Drive	48	48	48	0	0
6008	125 IPS Tape Drive	30	30	0	0	0
6019	200 IPS Tape Drive	30	30	0	0	0
6010	System Cabinet	30	30	0	0	0
6028	System Expansion Cabinet	22	30	0	0	0
6029	6100 Communications Subsystem	30	30	0	30	0
6020	Dot Matrix Printer	18	20	6	11	4
6027	Serial Matrix Printer	18	20	6	11	4

33. INTERFACES. The functional interfaces of the MPS are described in paragraph 35 herein.

a. Implementation. The interfaces which influence implementation of MPS enhancements are described below.

(1) Tandem NonStop TXP Processor with 8-MB Memory (Item 6001). Each NonStop TXP processor will interface with existing Tandem MPS hardware, peripherals and communications controllers, and be capable of running NonStop II application programs at the non-privileged level without change.

(2) Additional 2-MB Memory Module for Tandem NonStop II (Item 6002). The 2-MB memory module will interface with the current Tandem NonStop II processor.

(3) Tandem XL Disk Controller (Item 6006/6007). The channel interface PCB will interface with the Tandem NonStop II and the Tandem NonStop TXP (at ARTCC and support sites only), and with the Tandem NonStop II at GNAS sites. The disk interface PCB will interface with the Tandem XL8 disk drive (ARTCC and support sites) and the Tandem XL4 disk drive (GNAS sites).

(4) Tandem Add-In Disk Pair (Item 6018). The add-in disk drive pairs will interface with the Tandem 3108 disk controller.

(5) Tandem Communications Controller Board (Item 6011). A 6165-1 patch panel insert (Item 10) will be used to provide the electrical interface between the communications controllers and the communications lines.

(6) Tandem High-Performance Dot-matrix Line Printer System 6020). The printer will include a remote line printer system, consisting of a transmitter (product identification 55 FX) and a receiver (product identification 55 FR), which allows data conversion from parallel to serial and back, for transmission through dedicated communications links.

(7) Tandem Fiber-Optic Extension (FOX) (Item 6026). The FOX link will interface with the Tandem NonStop II processor and Tandem NonStop TXP processor to provide MPS-to-MPS connectivity at the FAA Technical Center (ACT-110's system to ASM-160's system).

b. Documentation. Applicable interface documentation exists in the following Interface Requirements Documents (IRD) and Interface Control Documents (ICD).

(1) Logistic Control Number (LCN)/User System Interface Requirements Document (IRD) - NAS-IR-21020000 (Baselined)

(2) MPS/Automation Subsystem IRD - NAS-IR-51030002 (Baselined)

(3) MPS/Area Control Computer Complex (ACCC) IRD - NAS-IR-21015103 (Baselined)

(4) MPS/National Communications Center (NCC) (NADIN II) IRD - NAS-IR-51034302 (Baselined)

(5) Voice Switching and Control System (VSCS)/MPS IRD - NAS-IR-51034201 (In Review)

(6) MPS/Flight Service Data Processing System (FSDPS) IRD - NAS-IR-51032301 (Planned 8/88)

(7) MPS/National Airspace Data Interchange Network (NADIN) MSN (1A) - NAS-IR-51034301 (Planned)

(8) Network Management and Control Equipment (NMCE)/MPS IRD - NAS-IR-41015103 (TBD)

(9) MPS/MWP IRD - (Planned 9/88)

(10) MPS/MMC IRD - (TBD)

(11) MPS/TCS IRD - (TBD)

(12) MPS/TMVS IRD - (TBD)

34. MPS Enhancements Distribution. The distribution of MPS enhancement equipment for installation at ARTCC's, GNAS's and FAA support sites is presented below in a pre- and post-enhancement context.

a. Air Route Traffic Control Centers (ARTCC). MPS functions are currently implemented at each ARTCC using three Tandem NonStop II processors, and associated disk drives and peripherals which run MPS-resident IMCS and MMS software.

Enhancements to the MPS will upgrade the memory in two of the three Tandem NonStop II processors, add two Tandem NonStop TXP processors, increase disk storage capacity, add one tape drive, and provide an additional system cabinet, communications subsystem and power supplies. MPS enhancements distribution to ARTCC's is described below.

(1) Processor Enhancements. Each ARTCC will receive two 8-MB Tandem NonStop TXP processors, and two additional 2-MB memory boards (with the exception of Anchorage, San Juan and Honolulu ARTCC's which will each receive five additional 2-MB memory boards). Except for the Anchorage, San Juan and Honolulu ARTCC's, using these 2-MB memory boards, the MPS contractor will upgrade two of the three Tandem NonStop II processors from 3.5 MB to 5 MB of memory each. At Anchorage, San Juan and Honolulu, the MPS contractor will use four of the 2-MB memory boards to upgrade two of the three Tandem NonStop II processors from 1.5 MB to 5 MB of memory each. Using the remaining 2-MB memory board at the Anchorage, San Juan and Honolulu ARTCC's, the MPS contractor will upgrade the third Tandem NonStop II processor from 1.5 MB to 3.5 MB of memory. The remaining Tandem NonStop II processor (with 3.5 MB of memory) and 0.5-MB memory boards will be removed by the MPS contractor from each ARTCC (except for Kansas City (ZKC)), and transferred to a GNAS, FAA support site or the FAA Depot in accordance with appendix 2 herein.

(2) Disk Storage Enhancements. Except for the Memphis and Kansas City ARTCC's, each ARTCC site will receive an XL8 disk drive, four 3108-1 disk controllers, one Tandem 7806 patch panel insert, and two Tandem 7807 patch panel inserts. One add-on disk pair will be installed at the Memphis ARTCC to upgrade its XL6 to an XL8. Two add-on disk pairs will be installed at the Kansas City ARTCC to upgrade its XL4 to an XL8. All non-XL series disk drives, disk patch panels and disk controllers, will be removed by the MPS contractor, and shipped to the FAA Depot by the site.

(3) Magnetic Tape Drive Enhancements. ARTCC's will each receive one Tandem 125 IPS tape drive and one tape controller.

(4) Additional Cabinets An additional system cabinet will be supplied to each ARTCC to accommodate the additional hardware. The MPS contractor will modify the backplane of the existing system cabinets to permit their use with Tandem NonStop TXP processors.

(5) Communication Equipment Enhancements. A new Tandem 6100 communications subsystem will be installed at each ARTCC. The capability of the existing Tandem 6303 asynchronous communications controllers will be expanded by adding a 6304 extension board.

(6) Additional Power Supplies. Four additional I/O power supply units will be installed by the MPS contractor at each ARTCC.

b. General NAS (GNAS) Sites. MPS functions are currently implemented at GNAS's using two Tandem NonStop II processors, and associated disk drives and peripherals running MMS software. Enhancements to the MPS will upgrade all lead GNAS sector sites by increasing disk storage capacity, adding two Tandem NonStop II processors, and increasing the memory of each existing Tandem NonStop II processor. MPS enhancements distribution is described below.

(1) Processor Enhancements. Each GNAS will receive two 3.5-MB memory Tandem NonStop II processors and two 0.5-MB memory boards transferred by the MPS contractor from ARTCC's. In addition, each GNAS will receive four new 2.0-MB memory boards (St. Louis (ZTL) will receive six new 2.0-MB memory boards). The MPS contractor will upgrade each of the four Tandem NonStop II processors to 5 MB's of memory by: 1) removing one 0.5-MB memory board from each of the transferred 3.5-MB memory Tandem NonStop II processors; 2) adding the removed 0.5-MB memory boards and the transferred 0.5-MB boards to the existing 2.0-MB memory Tandem NonStop II processors; and 3) adding one new 2.0-MB memory board to each Tandem NonStop II proceessor. The MPS contractor will achieve St. Louis (ZTL) upgrades by: 1) removing two 0.5-MB memory beards from, and installing two 2.0-MB memory boards in each existing 2.0-MB Tandem NonStop II processor; 2) removing one 0.5-MB memory board from, and installing one 2.0-MB memory board into, the transferred 3.5-MB memory NonStop II processors; and 3) shipping all unused 0.5-MB memory boards to the FAA Depot.

(2) Disk Storage Enhancements. Each GNAS will receive an XL4 disk drive. Two 3108-2 disk controllers will be supplied with Tandem 7806 and 7807 patch panel inserts. All non-XL series disk drives, disk patch panels and disk controllers will be removed by the MPS contractor, and shipped to the FAA Depot by the site.

c. FAA Support Sites. The MPS's located at the five FAA national support sites will be enhanced to enable them to support development, testing, and evaluation of the enhanced MPS systems being implemented under this PIP.

(1) Processor Enhancements. The national support sites will be upgraded as follows.

(a) FAA Headquarters. ASM-220's system will be upgraded to include four Tandem NonStop TXP processors with 8 MB of memory each.

(b) FAA Technical Center. ACT-110's post-enhancement system will include five Tandem NonStop TXP processors with 8 MB of memory each, and four Tandem NonStop II processors with 5 MB of memory each. ASM-160's post-enhancement system will include two Tandem NonStop TXP processors with 8 MB of memory each and four Tandem NonStop II processors with 5 MB of memory each. The remaining Tandem NonStop II, 0.5-MB memory boards will be removed by the MPS contractor and shipped the the FAA Depot in accordance with appendix 2.

(c) FAA Academy. AAC-940's post-enhancement system will include three Tandem NonStop II processors with 5 MB of memory each, and two Tandem NonStop TXP processors with 8 MB of memory each. Subsequent to the MPS enhancement, a fourth NonStop II processor with 5MB of memory will be added to AAC-940's system. The remaining Tandem NonStop II 0.5-MB memory boards will be removed by the MPS contractor, and shipped to the FAA Depot in accordance with appendix 2 herein. The extra 2.0-MB memory board will be shipped to the FAA Depot in accordance with appendix 2.

(d) Mike Monroney Aeronautical Center. ASM-150's post-enhancement system will include two Tandem NonStop TXP processors with 8 MB of memory each, and two Tandem NonStop II processors with 5 MB of memory each.

(2) Disk Storage Enhancements. The FAA Technical Center (ACT-110's system and ASM-160's system) and FAA Headquarters (ASM-220's system) will each receive two XL8 disk drives. The other two support sites (FAA Academy (AAC-940's system) and the Mike Monroney Aeronautical Center (ASM-150's system)) will each receive one XL8 disk drive. The 3108-1 disk controller will be supplied with the Tandem 7806 and 7807 patch panel inserts. All existing non-XL disk drives, disk patch

panels, and disk controllers (excluding the Mike Monroney Aeronautical Center (AAC-940 system) and the FAA Technical Center (ASM-160's system only)), will be removed by the MPS contractor, and shipped to the FAA Depot by the site.

(3) Magnetic Tape Drive Enhancements. Except for FAA headquarters (ASM-220's system) and the Mike Monroney Aeronautical Center (ASM-150's system), FAA support sites will receive one 125-IPS tape drive. In addition, FAA headquarters (ASM-220's system) and the FAA Technical Center (ACT-110's system) will each receive one 200-IPS high-performance tape subsystem.

(4) Additional Cabinets. An additional system cabinet will be supplied to each support site to accommodate additional hardware. In addition, FAA headquarters (ASM-220's system) and the FAA Technical Center (ACT-110's system) will receive an expansion cabinet to accommodate additional power supply units and patch panels, and allow the system to add additional processors. The MPS contractor will modify the backplane of existing system cabinets to permit their use with NonStop TXP processors.

(5) Communication Equipment Enhancements. New Tandem 6100 communications subsystems will be added to all support sites except FAA headquarters (ASM-220's system) and the Mike Monroney Aeronautical Center (ASM-150's system). The capability of existing Tandem 6303 asynchronous communications controllers will be expanded at all support sites by adding a 6304 extension board.

(6) Additional Power Supplies. Four additional I/O power supply units will be supplied at all support sites except the Mike Monroney Aeronautical Center (ASM-150's system), which will receive two additional I/O power supply units.

(7) Printer Enhancements. A dot-matrix printer will be added to the FAA Technical Center (ACT-110's system), and high-speed serial printers will be added to the FAA Technical Center (ACT-110's system) and FAA headquarters (ASM-220's system).

(8) Fiber Optic Extension. A fiber-optic extension link will be provided at the FAA Technical Center (ACT-110's system) to allow the ACT-110 MPS to be connected to the ASM-160 MPS via a high-speed data link.

35. REMOTE MAINTENANCE MONITORING SYSTEM FUNCTIONS. The RMMS is a distributed network of computers, processors, and communications subsystems. Its purpose is to collect, process, store and disseminate monitored NAS subsystem status,performance and alarm/alert data; to provide maintenance control and uplink adjustment, and initiate diagnostic and certification tests for remotely-located FAA facilities and equipment from centralized locations; and to provide maintenance management data to users. The RMMS is composed of maintenance processor subsystems (MPS), remote monitoring subsystems (RMS), and fixed, portable and transportable maintenance data terminals (MDT). Two MPS-resident software packages perform the monitoring and control, and database management functions central to the RMMS. Maintenance Management System (MMS) software provides the administrative and technical support software required to automate the on-line recording, storage, analysis and distribution of data. Monitor and control software (MCS) performs status and alarm collection and reporting, remote control, diagnostics and on-line data recording. An interim MCS (IMCS) capability has been implemented, and an initial MMS software version is currently being deployed on existing MPS's.

a. Functional Interfaces. The MPS supports the functional interfaces described below, as illustrated in figure 3-1 and figure 3-2.

(1) Remote Monitoring Subsystem. The MPS supports interfaces with RMS's retrofitted to or embedded in NAS facilities and equipment. The interface enables MPS polling of the RMS to determine NAS facility/equipment performance, achieve status monitoring and control, receive alarms/alerts, perform diagnostic and certification tests, and obtain maintenance management data.

(2) Other Maintenance Processor Subsystems. Each MPS can interface to any other MPS in the NAS through dedicated communications links to exchange status, control and MMS data.

(3) Maintenance Data Terminals (MDT). MPS's support interfaces with fixed, transportable and portable maintenance data terminals (MDT) to enable users to issue control commands, remote adjustment commands, and diagnostic and certification test commands through the MPS-resident IMCS and MMS software. The interface also allows users to enter and request management data using MMS.

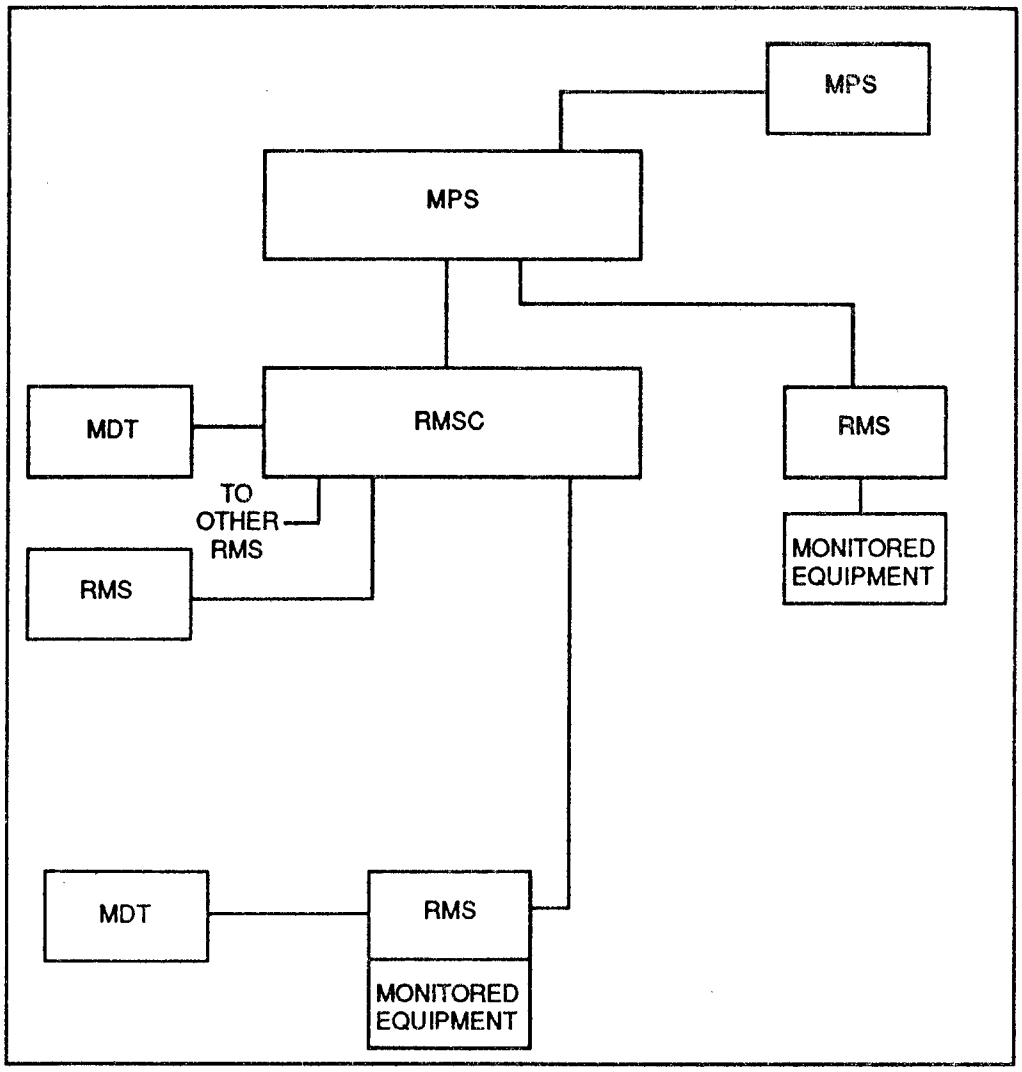


FIGURE 3-1. MPS TO RMMS SUBSYSTEM INTERFACES

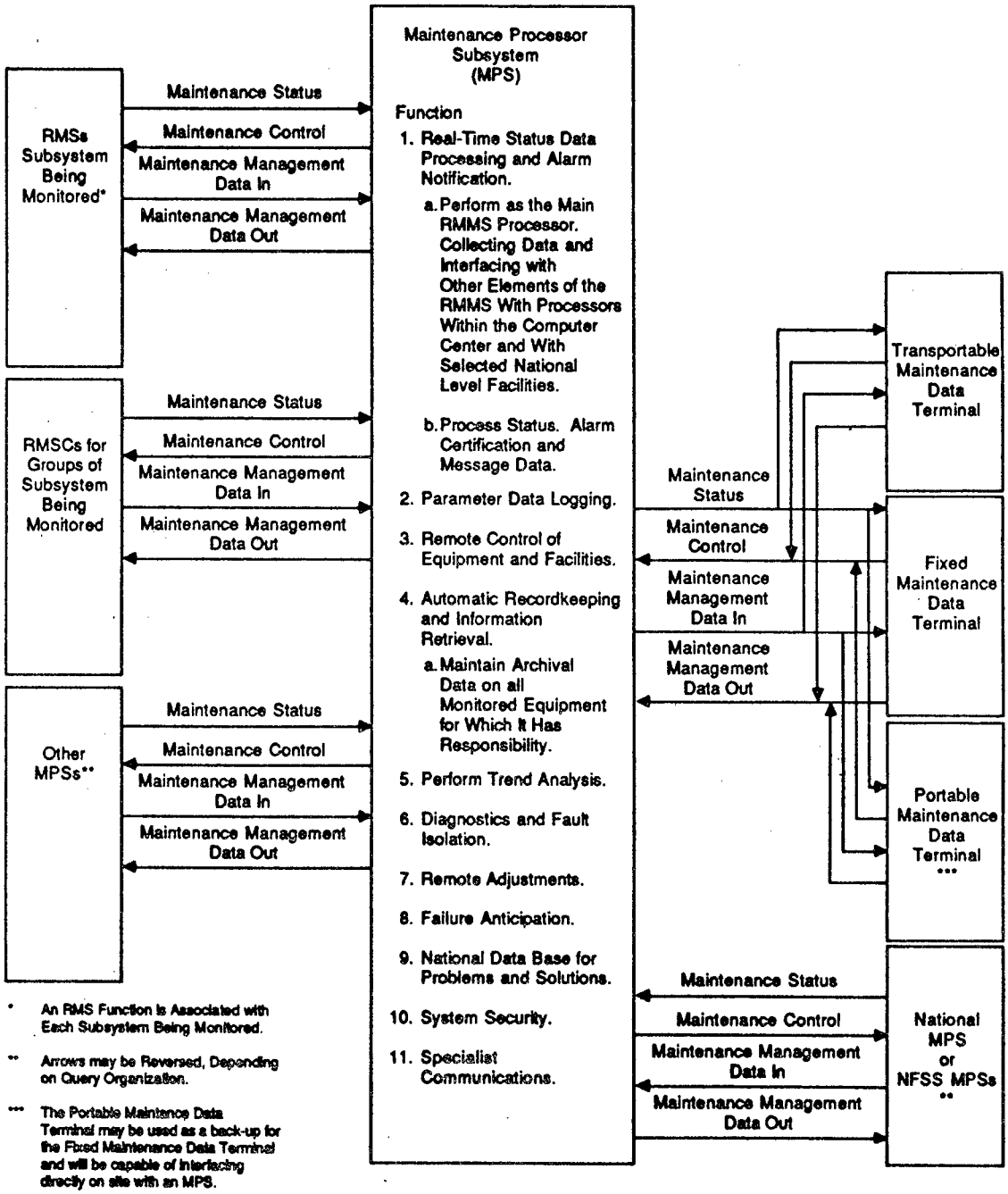


FIGURE 3-2. MPS TO RMMS FUNCTIONAL INTERFACES

(4) Maintenance Control Center (MCC). The MPS interfaces with the maintenance control center processor (MCCP), located at the maintenance control center (MCC) to permit display of status and control data at the maintenance monitor console (MMC).

b. Physical Interfaces.

(1) Remote Monitoring Subsystem. Requirements for the MPS-to-RMS interfaces are defined in NAS-MD-790, Remote Maintenance Monitoring Subsystem Interface Control Document, dated April 11, 1986 for data interchange, timing and control signals. This applies for synchronous and asynchronous transmissions, electrical signal characteristics, and mechanical connections. The interface connectors on both the RMS and the MPS are RS-232-C and are configured using a dedicated communications link as shown in figure 3-3.

(2) Other Maintenance Processor Subsystems. The MPS to MPS interface is implemented through dedicated communications link and modems. The interface connectors on each MPS are RS-232-C and are configured, as shown in figure 3-4.

(3) Maintenance Data Terminals.

(a) Fixed MDT's. Fixed MDT's located at MPS sites interface with the MPS through a 20-ma current loop cable, as shown in figure 3-5. At non-MPS sites, the fixed MDT interface with the MPS is achieved through telephone lines or through the Data Multiplexing Network (DMN) as shown in figure 3-6.

(b) Transportable MDT's. The transportable MDT interface with the MPS will be identical to those of the fixed MDT.

(c) Portable MDT's. The portable MDT interface with the MPS will be identical to those of the fixed MDT.

36-39. RESERVED.

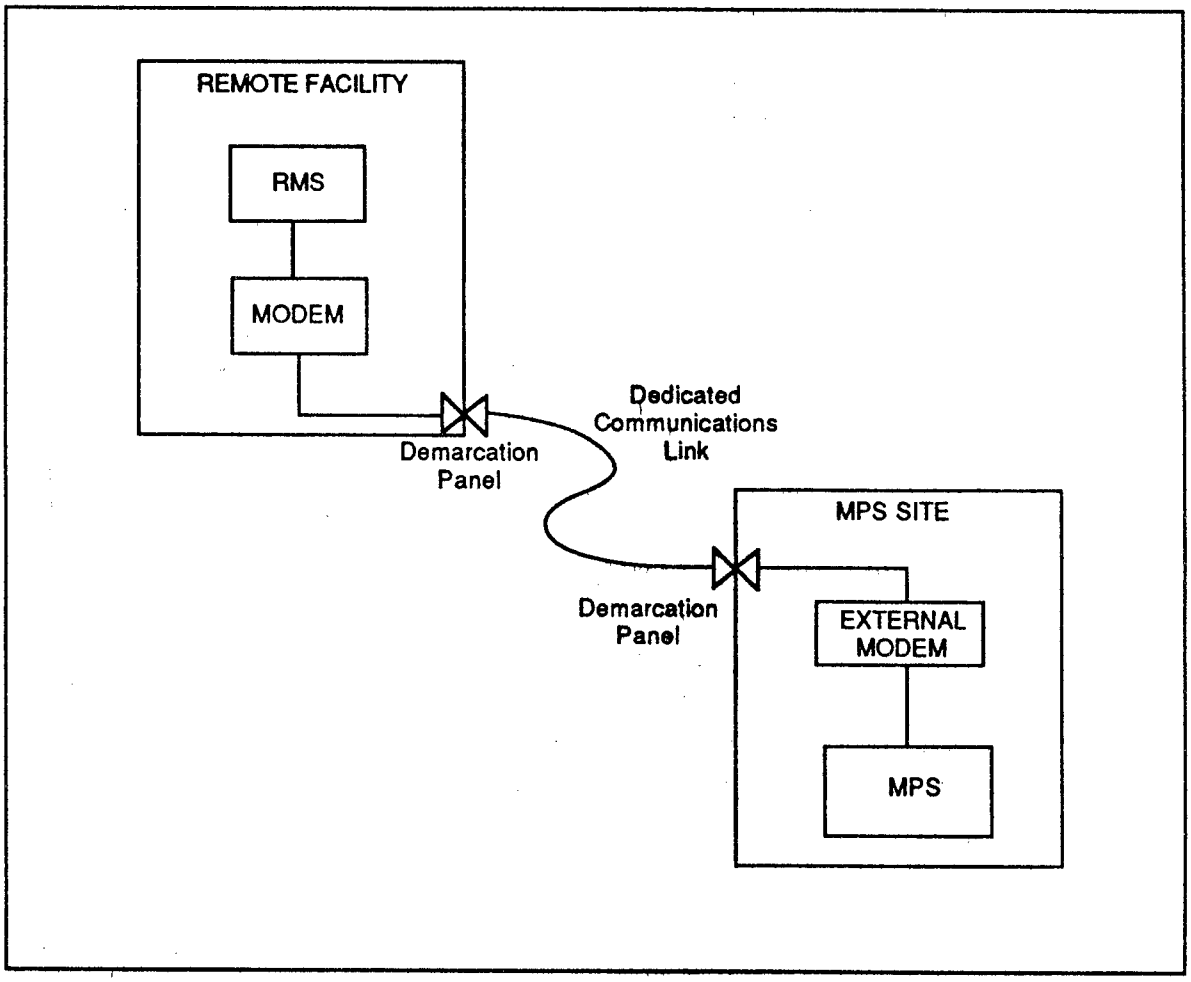


FIGURE 3-3. MPS TO RMS INTERFACE

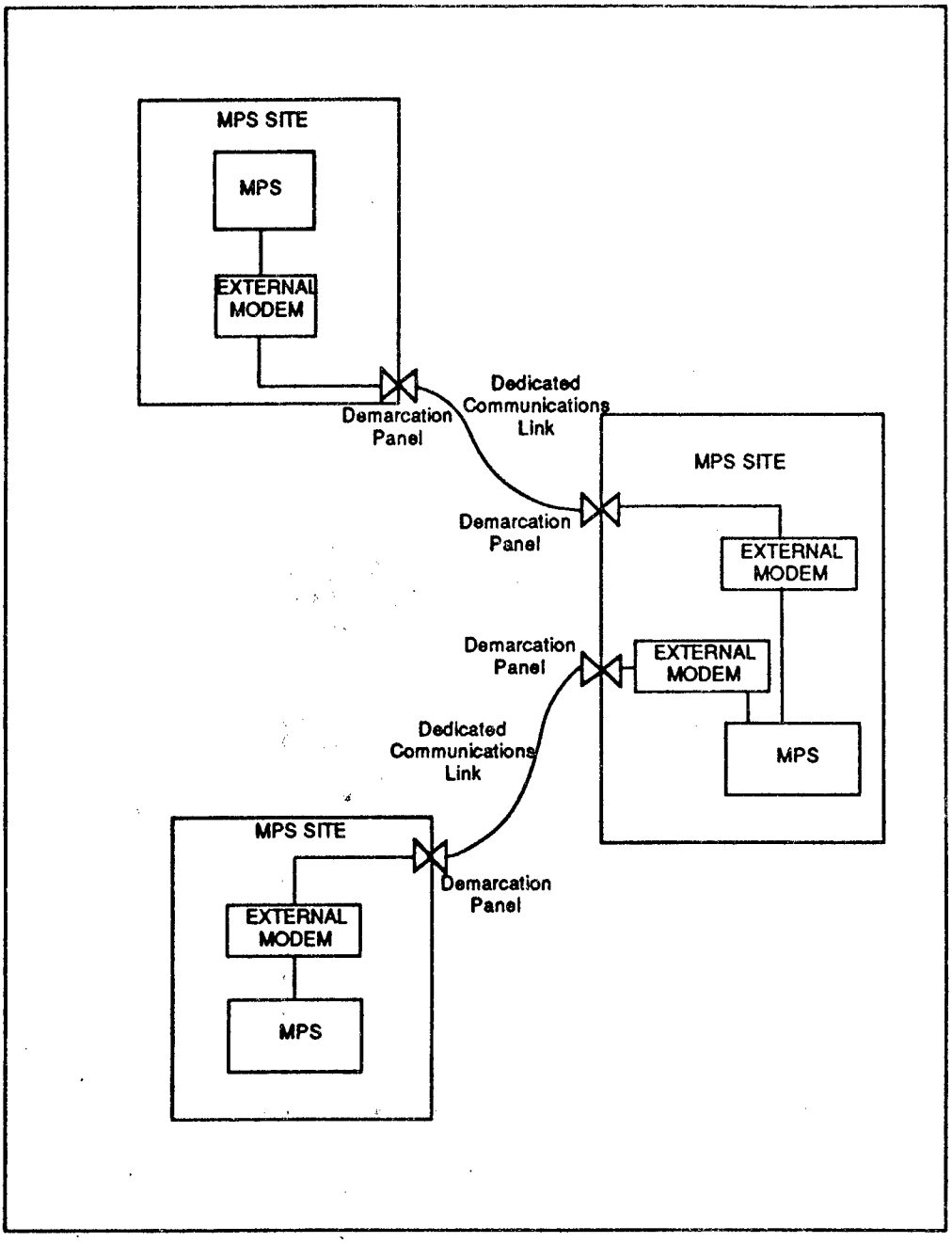


FIGURE 3-4. MPS TO MPS INTERFACE

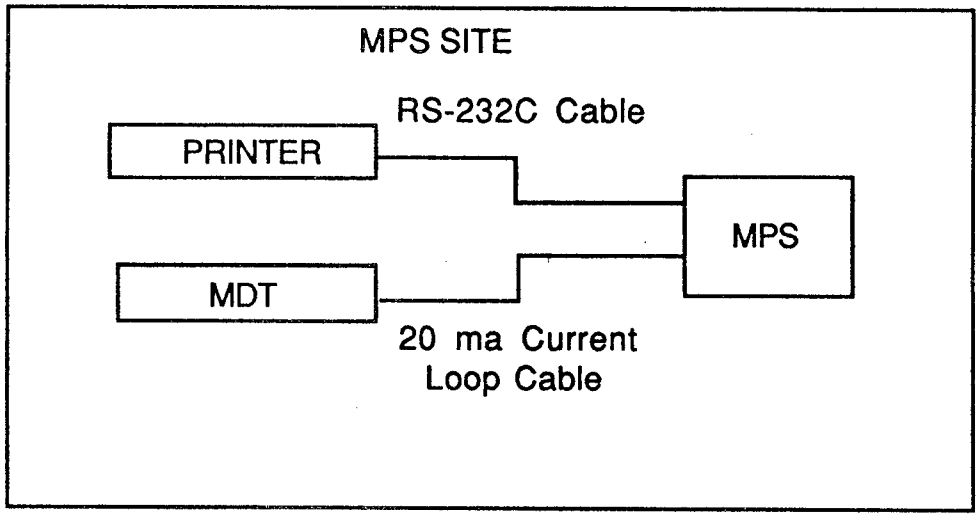


FIGURE 3-5. MPS TO MDT INTERFACE AT MPS SITE

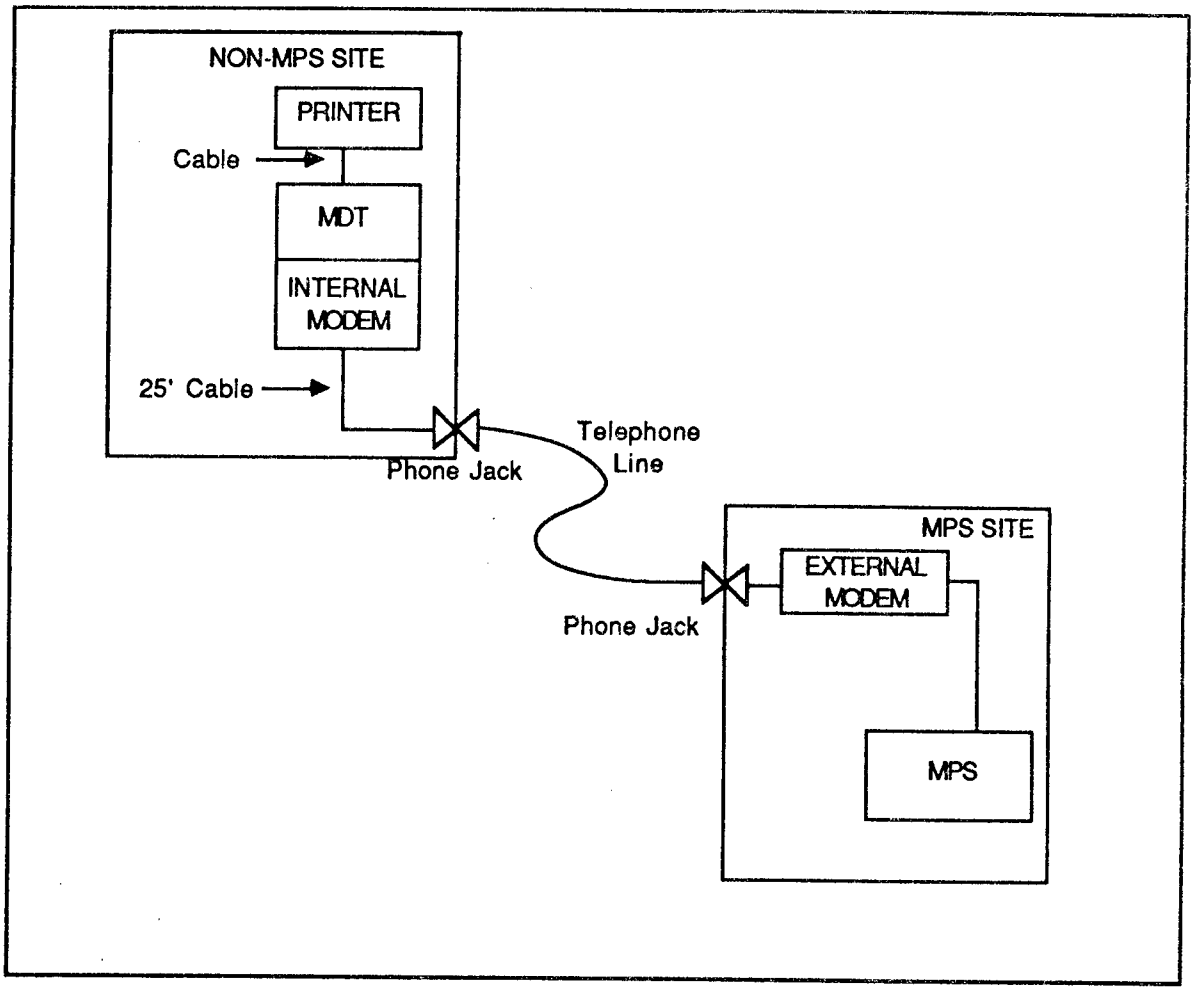


FIGURE 3-6. MPS TO MDT INTERFACE AT NON-MPS SITE

CHAPTER 4. PROJECT SCHEDULES AND STATUS

40. PROJECT SCHEDULES AND GENERAL STATUS. Summary milestone schedules encompassing program and project milestone activities are developed and maintained by the System Engineering and Integration Contractor (SEIC), and controlled by the Director, Program Engineering Service, APS-1, and/or the Deputy Associate Administrator for Airway Facilities, AAF-2. Project milestones are reflected in terms of scheduled completion date, current status date and actual completion date. Project summary milestone schedules are reviewed monthly by the NAS Program Status Review Board (PSRB). The summary schedule associated with the MPS enhancement project forms the basis for deriving the milestone schedule summary presented in paragraph 41 herein.

41. MILESTONE SCHEDULE SUMMARY. The schedule summarizing MPS enhancement implementation milestones is expressed for contract award to a bidder proposing brand-name equipment (Tandem equipment). If necessary, the schedule will be changed to reflect the latest MPS Enhancement implementation milestones based on the actual contract award date. Changes to the schedule will be implemented through the formal change process prescribed by the NAS Project Statusing and Baseline Schedule Change Control Procedures. The completion dates for milestone activities are reflected below.

Activity	Date
Contract Award	8/88 (Completed)
Logistics Guidance Conference	9/88 (Completed)
FAA Integration Testing (by ACT-110)	10/88 (Completed)
Deployment Readiness Review (Formal Briefing)	11/88
Operational Test and Evaluation (OT&E) Shakedown Testing (by ASM-160)	11/88
Provisioning Conference	11/88
Installation of 1st Operational ARTCC (ZHU)	12/88

Activity	Date
1st ARTCC (ZHU) Key Site Testing	12/88
1st ARTCC (ZHU) Joint Acceptance Inspection (JAI)	12/88
Installation of 1st Operational GNAS (DFW)	1/89
1st Operational GNAS Key Site Testing	1/89
1st Operational GNAS (DFW) JAI	1/89
Electronic Equipment Modification (EEM) and Site Program Bulletin (SPB) Issued to Regions	2/89
Delivery to Last Operational Site	5/89
Last JAI Completed	6/89

42. INTERDEPENDENCIES AND SEQUENCE. Implementation of MPS enhancement equipment is not critically dependent on the implementation of other maintenance automation projects. Enhancements to the MPS will provide the field with the necessary processing power to run recently-released MMS software and IMCS functions, and to support system workload growth to 1995. A parallel procurement is underway to field fixed and transportable maintenance data terminals (MDT) to provide user access to MPS-resident IMCS and MMS software.

43-49. RESERVED.

CHAPTER 5. PROJECT MANAGEMENT

50. PROJECT MANAGEMENT, GENERAL. Overall project management responsibility for implementation of maintenance automation projects rests with the Navigation/Landing and Facility Monitoring Division, APS-400. Project management functions and responsibilities are shared between the FAA and the systems engineering and integration contractor (SEIC). Maintenance and Automation Program management functions relative to MPS Enhancement implementation encompass technical, financial, program office and schedule management planning responsibilities. Allocation of MPS Enhancement requirements development, procurement, implementation, and logistic support responsibilities is as follows.

a. APS-400, Navigation/Landing and Facility Monitoring Division. Maintenance Automation Program management, hardware and software procurement, hardware configuration management.

b. APS-410, Software and Program Support Program Branch. MPS project management encompassing MMS and IMCS development; monitor and control software (MCS) requirements analysis; National Airspace Integrated Logistic Support (NAILS); system validation and configuration management (national-level NAS change proposal (NCP) for ARTCC and GNAS site preparation); testing, integration and RMMS networking; scheduling and budget/finance.

c. APS-430, Maintenance Processors Program Branch. MPS project management encompassing MPS enhancements procurement and implementation; funding for initial MPS enhancements training, initial MPS enhancement sparing, and initial MPS enhancement (1 year) maintenance; final hardware/software RMMS configuration; Maintenance Control Center (MCC) implementation.

d. APS-100, Facilities Integration Division. Space configuration management, power connection configuration management.

e. ASM-160, National Automation Engineering Field Support Sector. Modification engineering; development of site Electronic Equipment Modifications (EEM) describing site installation and user requirements; software maintenance; development of site program bulletins (SPB) describing procedures for software rehosting; documentation; baseline

configuration management; shakedown test planning and conduct; key site test planning and conduct.

f. ASM-230, Planning and Budgeting Program. Project staffing requirements; programming operations funds; management of operations-funded contract maintenance.

g. AAC-400, FAA Depot, Mike Monroney Aeronautical Center. Receipt of MPS enhancement spares from the MPS contractor; logistic support planning and coordination with APS-430; logistic support of fielded MPS enhancement equipment to consist of supply support, provisioning (beyond initial spares provided under contract) and maintenance (after warranty expires).

h. AAC-900, FAA Academy, Mike Monroney Aeronautical Center. Provision and administration of MPS enhancements pre-requisite and refresher technical training.

i. ACT-100, Engineering Division, FAA Technical Center. Development of MPS enhancement hardware and software evaluation and integration test plans and procedures; MPS enhancement and peripheral performance evaluation testing; FAA integration testing; MPS enhancement implementation planning support.

j. ALG-300, Contracts Division. Preparation and management of contract award activities; contract management.

k. APT-300, Technical Training Division. Personnel and technical training management.

l. SEIC, Systems Engineering and Integration Contractor. Project management support and planning, including development and maintenance of program milestone and project summary schedules; development and coordination of MPS enhancements logistic support requirements.

m. Contractor. Delivery, installation and integration of MPS enhancement hardware and software, maintenance and initial training as required by the MPS Enhancement contract.

51. PROJECT CONTACTS. The following personnel are involved in the management and planning of MPS enhancements implementation efforts, and are the project contacts for MPS enhancements implementation.

Position	Name	Organization	Telephone Comm./FTS
Project Manager	Alan Moore	APS-430	(202)646-/967-2093
Contracting Officer	Abe Tennenbaum	ALG-310	(202)267-/267-3655
Contracting Technical Officer's Representative (COTR)	Dean Christy	APS-430	(202)646-/967-5705
Project Lead	Dean Christy	APS-430	(202)646-/967-5705
Test Lead	Ray Dayton	SEIC	(202)646-/967-5534
Evaluation Testing	John Wiley	ACT-110	(609)484-/482-6805
Integration Testing	John Wiley	ACT-110	(609)484-/482-6805
EEM Development	Frank Buck	ASM-160	(609)484-/482-6236
Shakedown Testing	Lou Hodac	ASM-160	(609)484-/482-6236
Configuration Management			
- Hardware	Frank Buck	ASM-160	(609)484-/482-6236
- Software	Frank Happel	ASM-160	(609)484-/482-6236
Logistic Support	Don Brown	SEIC	(202)646-/967-6953
	Bob Geary	SEIC	(202)646-/967-5885
Provisioning	Jim Nettleton	AAC-485B	(405)686-/747-4661
Regional Liaison	Paul TeSelle	APS-430	(202)646-/967-5586
Site Implementation	Paul TeSelle	APS-430	(202)646-/967-5586
Training Support	Bob Whitfield	ASM-210	(202)267-/267-8292
	Ben McWatters	AAC-942	(405)686-/749-2710
	Bill Collins	SEIC	(202)646-/967-5542
Scheduling Support	Bill Burgner	SEIC	(202)646-/967-5707

52. PROJECT COORDINATION. APS-430 coordinates maintenance automation development, procurement, implementation and logistic support requirements through the following agency organizations.

a. ASM-300, Telecommunications Management and Operations Division.

b. APS-100, Facilities Integration Division.

c. ALG-300, Contracts Division.

d. APT-300, Technical Training Division.

e. AAC-400, FAA Depot, Mike Monroney Aeronautical Center.

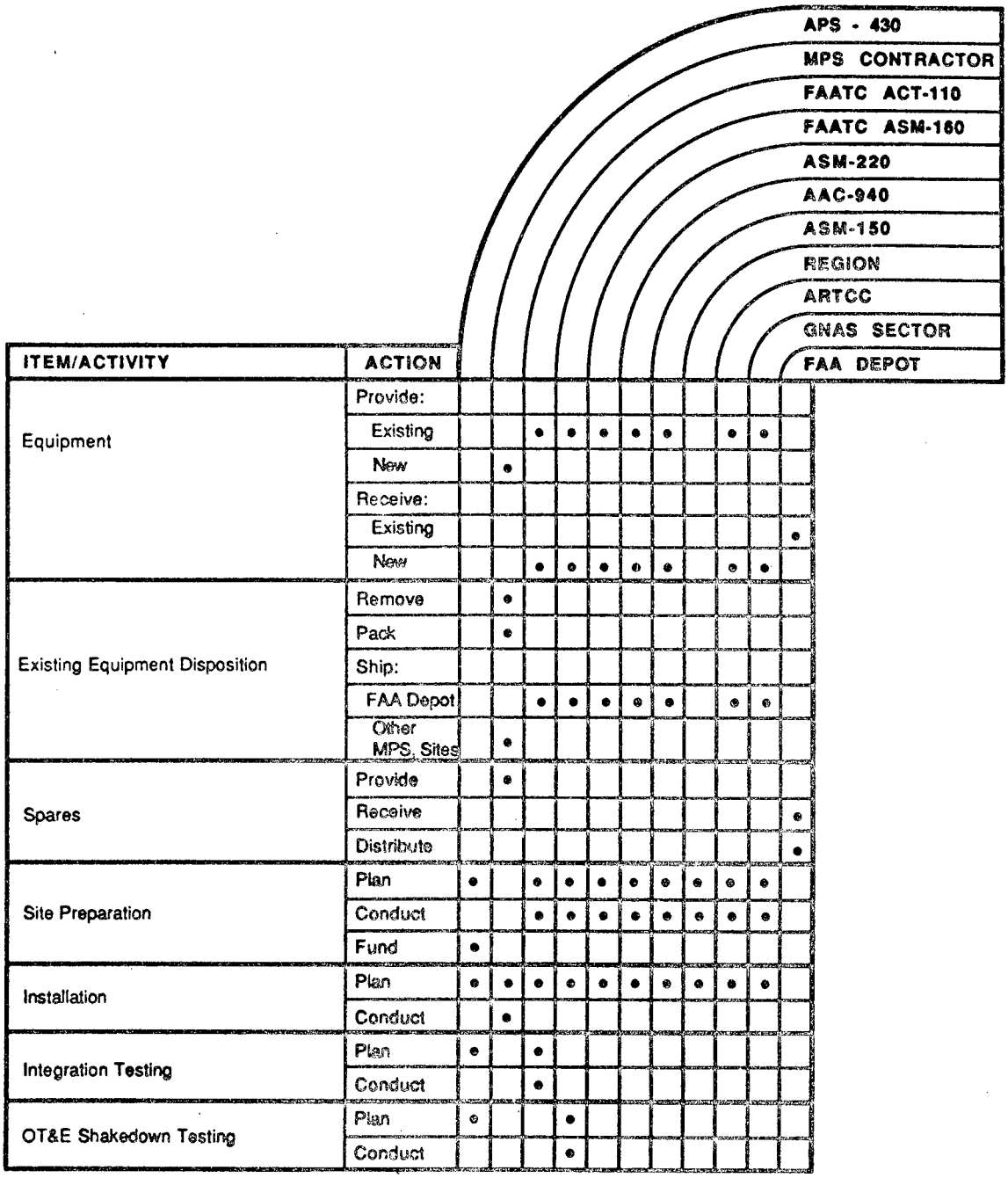
f. AAC-900, FAA Academy, Mike Monroney Aeronautical Center.

g. Regional Offices: coordination of site equipment deliveries; system configuration management.

53. PROJECT RESPONSIBILITY MATRIX. Figure 5-1 presents the external and internal organizational elements responsible for major project functions.

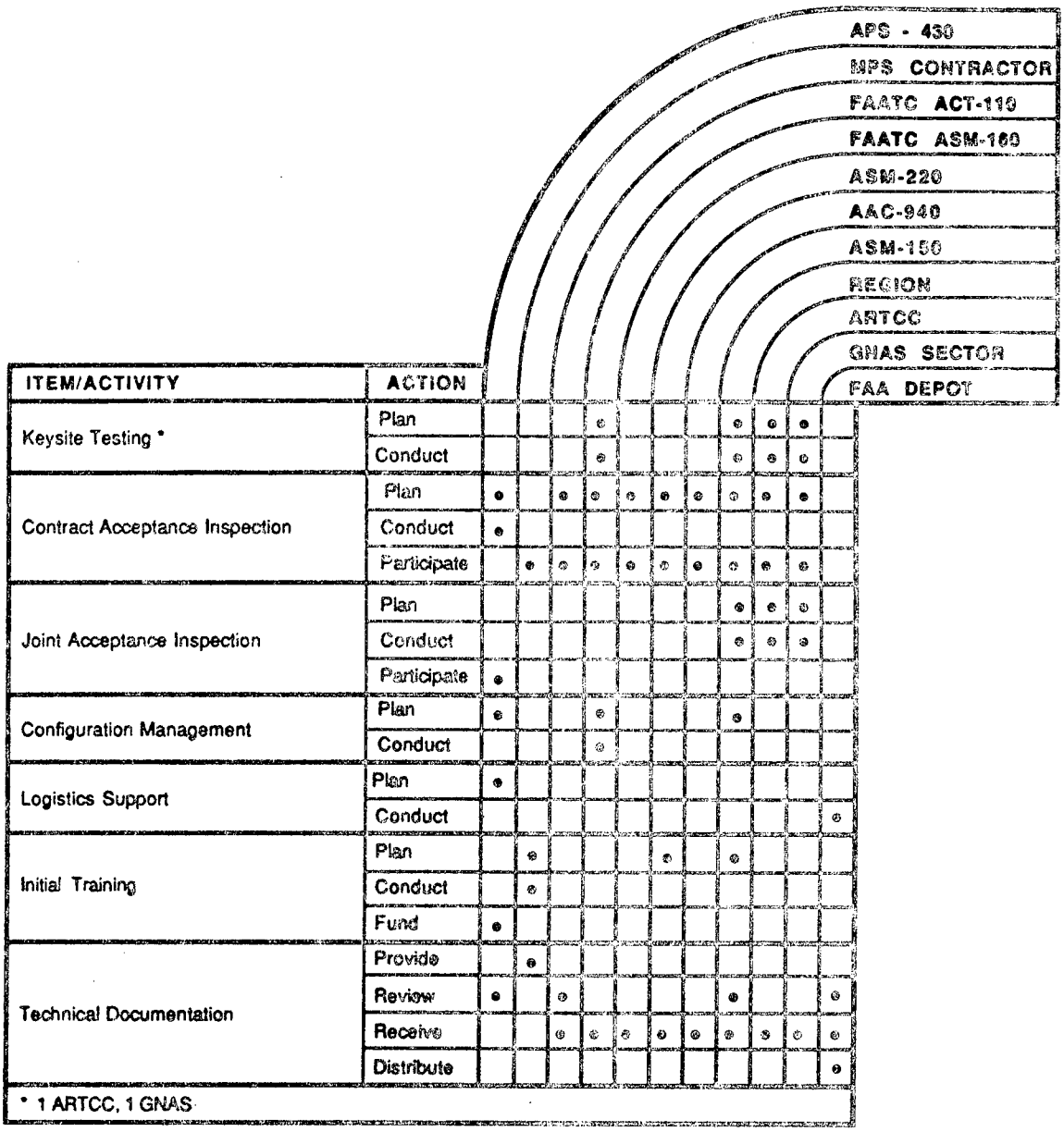
54. PROJECT MANAGERIAL COMMUNICATIONS. MPS Enhancement project status is reviewed on a monthly basis by the NAS Program Status Review Board (PSRB), and by APS-430 at FAA headquarters in Washington, D.C. These reviews assess the technical, schedule and cost status of the program; they are summarized in PSRB reports. In addition, the following managerial communications tools (reports, briefings, working groups, teams, etc.) are used on the MPS Enhancement project.

a. Weekly Project Status Meetings. Weekly project status meetings will be held by APS-430 to provide for general-purpose progress reporting, discussion and resolution of problems, requests for information, and policy notification on a direct basis. Participants include representatives from the offices listed in paragraphs 50 and 52 (except for the regional offices).



ITEM/ACTIVITY	ACTION	APS - 430	MPS CONTRACTOR	FAATC ACT-110	FAATC ASM-160	ASM-220	AAC-940	ASM-150	REGION	ARTCC	GNAS SECTOR	FAA DEPOT
Equipment	Provide:											
	Existing			•	•	•	•	•		•	•	
	New		•									
	Receive:											
	Existing											•
	New			•	•	•	•	•		•	•	
Existing Equipment Disposition	Remove		•									
	Pack		•									
	Ship:											
	FAA Depot			•	•	•	•	•		•	•	
	Other MPS Sites		•									
Spares	Provide		•									
	Receive											•
	Distribute											•
Site Preparation	Plan	•		•	•	•	•	•	•	•	•	
	Conduct			•	•	•	•	•	•	•	•	
	Fund	•										
Installation	Plan	•	•	•	•	•	•	•	•	•	•	
	Conduct		•									
Integration Testing	Plan	•		•								
	Conduct			•								
OT&E Shakedown Testing	Plan	•			•							
	Conduct				•							

FIGURE 5-1. PROJECT RESPONSIBILITY MATRIX



ITEM/ACTIVITY	ACTION	APS - 430	MPS CONTRACTOR	FAATC ACT-110	FAATC ASM-160	ASM-220	AAC-940	ASM-150	REGION	ARTCC	GNAS SECTOR	FAA DEPOT
Keysite Testing *	Plan				◎				◎	◎	●	
	Conduct				◎				◎	◎	◎	
Contract Acceptance Inspection	Plan	●		◎	◎	◎	●	◎	◎	◎	●	
	Conduct	●										
	Participate		●	◎	◎	◎	◎	●	◎	●	◎	
Joint Acceptance Inspection	Plan								●	●	◎	
	Conduct								◎	◎	◎	
	Participate	●										
Configuration Management	Plan	●			◎				●			
	Conduct				◎							
Logistics Support	Plan	●										
	Conduct											◎
Initial Training	Plan		●				◎		◎			
	Conduct		●									
	Fund	●										
Technical Documentation	Provide		●									
	Review	●		◎					●			◎
	Receive			◎	◎	◎	◎	◎	◎	◎	◎	◎
	Distribute											●

* 1 ARTCC, 1 GNAS

FIGURE 5-1. PROJECT RESPONSIBILITY MATRIX (CONT'D)

b. Regional Status Reports. Regional status reports will cover the technical progress and cost performance associated with preparation, installation, integration and test of each site and will be submitted on a schedule to be determined by the MPS Enhancement project manager.

c. Program Management Status Reports. Program Management Status Reports (PMSR) will be submitted by the MPS contractor, and will describe work progress, updated milestone schedules, and any potential or actual problem areas encountered during the course of implementing MPS enhancements.

d. NAS Integrated Logistic Support Management Team. FAA Depot logistic support approach and requirements relative to implemented MPS enhancements support were identified and coordinated through the NAS Integrated Logistic Support Management Team (NAILSMT). Associated decisions were recorded in NAILSMT minutes, distributed to participants and reflected in updates to the Integrated Logistic Support Plan (ILSP).

e. Project Status Dissemination. General information relative to MPS enhancements procurement and implementation status is disseminated to the regions and throughout FAA headquarters through periodic project status memoranda. Project status will also be made available to technicians in the field through existing communications media such as the APS "Tieline," and the MPS hotline, (202)827-7752.

f. Briefings. Bargaining unit representatives will be briefed as appropriate on the MPS Enhancement project and its effect on the maintenance technician workforce at the national, regional and local levels. Other briefings will occur as required.

g. Letters of Agreement. A trilateral letter of agreement (LOA), dated February 9, 1988, is in coordination between APS-430, ACT-110, and ASM-160. It constitutes a mutual agreement to provide technical assistance, expertise and support to APS-430 in the procurement and implementation of the MPS Enhancement Project. Expertise will be supplied to APS-430, as required, in the following areas: master test planning, Electronic Equipment Modification (EEM) and Site Program Bulletin (SPB) development, project implementation planning, integration testing, Operational Test and Evaluation (OT&E), and equivalency test planning.

55. IMPLEMENTATION STAFFING. Implementation staffing will be required to support the recording of alerts, alarms and MMS data using paper logs and the manning of facilities during system operational unavailability at each site scheduled to receive MPS enhancements. Additional implementation staffing requirements/activites are presented in chapter 7. The responsibility for determining additional implementation staffing requirements, which vary by site, and the means for satisfying these requirements remains with each region and/or MPS site.

56. PLANNING AND REPORTS. The documentation (plans, reports) referenced in this PIP in relation to MPS enhancements site implementation is listed below.

a. MPS Enhancement Integrated Logistic Support Plan.

b. MPS Enhancement Subsystem Training Plan.

c. MPS Enhancement Master Test Plan.

d. Evaluation Test Plans, Procedures and Reports, pre-award.

e. Hardware/Software FAA Integration Test Plans and Reports, post-award.

f. Shakedown Test Plans and Procedures, and Key-Site test Reports.

g. Electronic Equipment Modification (EEM) Handbook Chapter.

h. Site Program Bulletin (SPB).

i. Deployment Readiness Review (DRR) Report.

j. Joint Acceptance Inspection (JAI) Report.

57. APPLICABLE DOCUMENTS. The following documents are referred to in this PIP, and provide technical specifications, information, policy and directives applicable to this implementation. Conflict between these and other documents should be brought to the project manager for resolution.

a. FAA-E-2782, RMMS Core System/Segment Specification, dated July 14, 1986.

b. NAS-SS-1000, NAS System Specification, Volume 5, dated November 1986.

c. NAS-MD-790, Remote Maintenance Monitoring Subsystem Interface Control Document, dated April 11, 1986.

d. MPS Enhancement Integrated Logistic Support Plan (ILSP).

e. MPS Enhancement Subsystem Training Plan (STP).

f. NAS Project Statusing and Baseline Schedule Change Control Procedures.

g. NAS Program Deployment Readiness Review, Draft FAA order and ADL Memorandum (dated February 19, 1987).

h. LCN/User System IRD - NAS-IR-21020000

i. MPS/Automation Subsystem IRD - NAS-IR-51030002

j. MPS/ACCC IRD - NAS-IR-21015103

k. MPS/NCC (NADIN II) IRD - NAS-IR-51034302

l. VSCS/MPS IRD - NAS-IR-51034201

m. MPS/FSDPS IRD - NAS-IR-51032301

n. MPS/NADIN MSN (1A) - NAS-IR-51034301

o. NMCE/MPS IRD - NAS-IR-41015103

58. CONTRACT MANAGEMENT. Management of the MPS Enhancement contract will be performed by the Contracts Division, Acquisition and Materiel Service of the FAA, and APS-430 as described below.

a. Contracting Officer (CO), designated by the Acquisition and Materiel Service, Contracts Division, Air Traffic Control (ATC) Automation/Flight Information Branch, ALG-310, will perform general procurement and contract management activities relative to the MPS enhancement contract.

This includes monitoring the MPS contractor's deliveries, conducting progress reviews as necessary, and performing any other duties required to ensure that the terms of the contract are met by the MPS contractor. The CO is the only person authorized to make any changes that will affect price, equipment quantities, deliverables or schedules.

b. A Contracting Officer's Technical Representative (COTR), designated by the MPS enhancement project manager in APS-430, will provide technical guidance and direction to the MPS contractor within the scope and life of the MPS Enhancement contract.

59. CONFIGURATION MANAGEMENT. APS-430 is responsible for configuration management of each MPS site, during the installation of MPS enhancements, from the time the MPS is shut down until Joint Acceptance Inspection (JAI) at ARTCC's and GNAS's, and completion and signing of Form DD-256 at FAA support sites. The MPS contractor will provide the Maintenance Automation Program COTR or designee with a configuration items index list which will contain the part nomenclature, revision level and engineering release number for all equipment the MPS contractor has installed at each site to achieve the MPS enhancement. Configuration management responsibilities will transfer from APS-430 to ASM-160 upon successful conclusion of JAI at each ARTCC and GNAS. The transfer will be formalized in JAI-required documentation. The configuration items index list provided by the MPS contractor to the Maintenance Automation Program COTR or designee will be handed over to ASM-160 during the transfer of configuration management responsibility from APS-430 to ASM-160. This list will be transferred by ASM-160 to the site, and used by the site to perform configuration control of the enhanced MPS. ASM-160 will retain a copy of the list to perform configuration management of the enhanced MPS.

CHAPTER 6. PROJECT FUNDING

60. PROJECT FUNDING STATUS, GENERAL. Funding for this project has been approved through fiscal year (FY) 1989 (see Congressional Budget appropriation for NAS Plan 6-01).

61. REGIONAL REQUIREMENTS. Limited funding for regional activities such as implementation planning and site preparation is being budgeted by APS-400. Additional funding for FAA site preparation, and on-site installation, checkout and acceptance test support will be provided to each region through a Program Authorization (PA). Funding has been authorized as follows: ARTCC's - $25,000; GNAS and support sites - $10,000. If additional funding is required, an MPS site must submit a justificaion for adddional funding along with engineering estimates to APS-400 by October 3, 1988. APS-400 will consider each request on a case-by-case basis. The funding will support MPS enhancement implementation for the following.

a. Site Preparation. The cost of materials used in performing required site preparation will be funded by APS-400.

b. Site Installation. All installation costs against Facility and Equipment (F&E) will be funded by APS-400.

c. Installation Planning. Regional installation planning and ASM-160 EEM/SPB development and validation activities will be funded by APS-400.

d. Training. Funding for initial training only will be provided by APS-400. Pre-requisite and refresher training will be funded through AAC-940.

e. Spares. APS-400 will provide funding to support procurement of initial MPS enhancement spares. Additional sparing will be funded by AAC-480.

f. Surge Suppression/Power Conditioning. Funding for surge suppression/power conditioning requirements for the enhanced MPS systems will be provided by APS-400.

62-69. RESERVED.

CHAPTER 7. DEPLOYMENT

70. General Deployment Aspects. Deployment of MPS enhancements will be coordinated through APS-430 with the MPS contractor. Site deliveries of new equipment are scheduled between September 2, 1988 and October 31, 1988. Equipment installation will occur in accordance with appendix 1 of this PIP. Delivery of equipment removed from a site (see appendix 2 herein) will occur at the time of or before the installation of new equipment. Coordination of scheduled installations will be finalized at each site through a site briefing to be conducted fifteen days prior to each scheduled installation (five days prior at the FAA Technical Center, ACT-110's system). The purpose of these briefings is to review the MPS contractor's proposed method of achieving installation and testing of MPS enhancements, and to coordinate requirements for accommodating site-peculiar constraints (such as access, security, etc.). Other deployment aspects associated with the implementation of MPS enhancements are discussed in the paragraphs below.

a. NAS Change Proposals Supporting MPS Enhancements Implementation. Three NAS Change Proposals (NCP) are being initiated and coordinated through APS-430 to support MPS enhancements implementation. They are described below.

(1) An NCP (NCP number 10661, case file number P5200-MPS-002) has been initiated and is being coordinated through APS-430 Configuration Control Board (CCB) to bring the MPS enhancements into the NAS. The same NCP initiates the EEM handbook chapter that will provide required details on site installation support activities. The associated configuration control decision (CCD) will detail MPS enhancements deployment and implementation.

(2) ASM-160 has initiated an NCP to bring current MPS equipment layout into configuration baseline (at ARTCC's only), and current MPS equipment into equipment baseline (at ARTCC's and GNAS Sectors only). MPS contractor-installed MPS enhancements and associated equipment changes will be documented in a configuration items index list to be provided by the MPS contractor to the site, after each installation. This list will be used as a configuration baseline from which to perform configuration management of the MPS enhancements, and will be updated as required by ASM-160 to reflect changes in equipment

revision levels and nomenclature as part of warranty or maintenance actions.

(3) Another NCP (NCP number 10679, case file number P5200-MPS-001) has been initiated and is being coordinated through an APS-430 CCB to specify a standardized floor space (footprint) arrangement to be achieved at each MPS ARTCC site following completion of MPS enhancements installation. The NCP proposes to use the same original space allocated to the MPS and standardize the configuration. The associated CCD will approve the configuration baseline for the MPS enhancement equipment space allocation.

b. Deployment Readiness Review. As required by ADL policy issued in a Memorandum dated February 19, 1987, a Deployment Readiness Review (DRR) will be conducted in November 1988 by APS-430 prior to equipment delivery to the first operational site. The formal DRR briefing to AAF-2 will occur after MPS enhancements are installed at the FAA Technical Center, and after integration testing is conducted by ACT-110. The purpose of the DRR is to determine the readiness of site personnel and procedures to deploy (i.e., install, integrate, operate and support) the augmented MPS in the operational environment. The outcome of the DRR will be a deployment decision, and may involve the resolution of action items identified during the DRR process.

c. Site Deliveries. Delivery of MPS enhancements hardware and software will begin seven days after the delivery order is placed with the MPS contractor (upon contract award) and will continue through the end of October 1988 and will be coordinated by APS-430. ARTCC and GNAS key sites, as well as all other sites receiving MPS enhancements will be issued an EEM handbook chapter in which equipment and peripherals being implemented will be listed by national stock number (NSN). Delivery of MPS enhancements will be performed by the MPS contractor to the following sites: FAA headquarters in Washington, D.C. (ASM-220's system); the FAA Technical Center in Atlantic City, NJ (ACT-110's and ASM-160's systems); the Mike Monroney Aeronautical Center in Oklahoma City, OK (AAC-940's and ASM-150's systems); twenty-three ARTCC's; and ten lead GNAS sectors in accordance with the provisions of paragraph 72 herein. Spares will be delivered to the FAA Depot in Oklahoma City, OK.

71. SITE PREPARATION. The site preparation activities required to support implementation of MPS enhancements will be performed by assigned Airways Facility (AF) division or sector personnel prior to the MPS contractor's scheduled installation activities. In general, site preparation will consist of verifying that electrical receptacles and communications lines are available or installed, ensuring that heating, ventilation and air conditioning (HVAC) is appropriate to support enhanced MPS operations, and confirming that site floor loading characteristics are sufficient to support the weight of the enhanced MPS. Specific site preparation requirements will vary in accordance with the site-peculiar needs of an ARTCC, GNAS Sector office or FAA support site. General site preparation requirements are addressed below. Site-peculiar preparation requirements are summarized herein. Site preparation requirements are driven by the MPS enhancement equipment physical requirements described in chapter 3 of this PIP.

a. Site Access Requirements. The physical characteristics of site access points, such as entranceways, ramps, stairwells, hallways, etc. must accommodate the passage of MPS enhancement components to the floor locations specified in appendix 3 herein. Site personnel should refer to chapter 3 of this PIP to obtain the physical dimensions of each MPS enhancement hardware component, and compare these dimensions to site access measurements. If site access requirements cannot be through standard or usual passages, appropriate alternative provisions must be made to accommodate equipment delivery and installation.

b. Floor Loading Requirements. Selected AF personnel will need to estimate and ensure the capability of the computer room floor to support the additional equipment loads imposed by MPS enhancement hardware in the designated configurations. The weight associated with each MPS enhancement hardware component is presented in figure 7-1. Site personnel will need to determine the combined weight of MPS enhancements with existing/remaining MPS hardware to estimate floor loading tolerances. If additional measures are required to accommodate floor-load integrity, they must be performed in time to support scheduled MPS contractor installations.

c. Required Cabling. Cabling external to the MPS (e.g., power cables, communications cables) will be supplied and installed by each site prior to MPS contractor installation. System internal cabling (used to connect MPS equipment enhancements to existing equipment) will be supplied by the MPS

PRODUCT IDENT	COMPONENT NAME	WEIGHT (Lbs)	ARTCC	GNAS SECTOR	ACT-110	ASM-160	ASM-220	AAC-960	ASM-150
4130	Disc Subsystem (XL8)	991	•		•	•	•	•	•
4134	Disc Subsystem (XL4)	683		•					
5130	Tape Subsystem (200 IPS)	860			•		•		
5104	Tape Subsystem (125 IPS)	520*	•		•	•	•	•	
7123	System Cabinet	600*	•		•	•	•	•	•
7107	Expansion Cabinet	350*			•		•		
6100	Communications Subsystem	736	•		•	•		•	
5518	Printer (Dot-Matrix)	465			•				
5520	Printer (Serial Matrix)	67			•		•		

* Approximate fully loaded weights

FIGURE 7-1. MPS ENHANCEMENT EQUIPMENT WEIGHTS FOR FLOOR LOADING TOLERANCES

contractor (see chapter 3 of this PIP). This generally includes all interconnecting cables, however, the conductor ribbon cables currently used to connect the existing 0.5-MB memory boards to the NonStop II's (2 cables per board) will be reused by the MPS contractor to achieve installation of the new 2-MB memory boards. To support installation of the fiber-optics extension (FOX) link at the FAA Technical Center between ACT-110's and ASM-160's systems, a 100-micron fiber-optic cable will be supplied by ACT-110. The cable will need to be terminated using the FOX cable terminator kit supplied by the MPS contractor.

d. Power Requirements. Site personnel must ensure that adequate AC power is provided to support enhanced MPS component operations, as described below, and summarized in figure 7-2 (AC connections). The power requirements cited herein are associated with the enhancements only, and must be evaluated against existing equipment power requirements, according to the floor plans (see appendix 3) and equipment removal list (see appendix 2), in order to determine whether additional power outlets, cables, etc., are neccessary to support the installation. Outlets connected to the critical bus require twist-lock power receptacles. Each site with twist-lock power receptacles must supply the MPS contractor with a male plug capable of insertion into the twist-lock receptacle for each device requiring connection to the critical bus. The MPS contractor will replace standard plugs with twist-lock compatible male plugs provided by the site.

(1) System cabinets, expansion cabinets and tape drive cabinets will each require the following.

(a) One ten foot long AC power cable terminated with tape or wire nuts, consisting of a 5-wire, 8-gauge (40 amp, rated 600 volts or heavier) cable supplying 3-phase, 208 volts, 60 Hz AC power.

(b) Voltage between phase lines at a nominal 208 volts.

(c) Voltage between a phase line and neutral at a nominal 120 volts.

(d) Circuit breakers installed in the computer room power panel rated at 40 amps.

PRODUCT IDENT	COMPONENT NAME	AC CONNECTOR	ARTCC	GNAS SECTOR	ACT-110	ASM-160	ASM-220	AAC-943	ASM-150
4130	Disc Subsystem (XL8)	Two NEMA IG-L6-15R	•		•	•	•	•	•
4134	Disc Subsystem (XL4)	Two NEMA IG-L6-15R		•					
5130	Tape Subsystem (200 IPS)	NEMA IG-L6-20R			•		•		
5104	Tape Subsystem (125 IPS)	5 wire cable	•		•	•		•	
7123	System Cabinet	5 wire cable	•		•	•	•	•	•
7107	Expansion Cabinet	5 wire cable			•		•		
6100	Communications Subsystem	NEMA IG-L21-20R	•		•	•		•	
5518	Printer (Dot-Matrix)	NEMA IG-5-15R			•				
5520	Printer (Serial Matrix)	NEMA IG-5-15R			•		•		

FIGURE 7-2. AC CONNECTIONS REQUIRED TO SUPPORT INSTALLATION OF MPS ENHANCEMENTS

(2) The system cabinet array at each site will require one center-ground power receptacle (NEMA IG-5-15R) to be provided for every ten feet along the array. These receptacles must be fed from the computer room power distribution panel to prevent electrical noise from affecting test equipment, and will not use the critical bus. Receptacle use should be limited to service equipment. Receptacles should not be used as convenience receptacles, or for powering peripheral equipment.

(3) XL8 and XL4 disk subsystems will each require two power receptacles (NEMA IG-L6-15R) on separately-branched circuits of 220 volts (plus or minus 20%), at 43 to 63 Hz, to be located within three feet of the disk drive cabinet.

(4) The 200 IPS tape subsytems will each require one standard, center-ground power receptacle (NEMA IG-L6-20R) on a 20 amp, 208 volt AC circuit located within three feet of the tape drive cabinet.

(5) Each printer and terminal will require one standard, center-ground power receptacle (NEMA IG-5-15R), 15 amps, 120 volts, to receive a standard three-pronged plug. Receptacles must be located within ten feet of the peripheral devices.

(6) At ARTCC's the OSP will require one standard, center-ground twist-lock power receptacle (NEMA IG-L5-15R), 15 amps, 120 volts. At GNAS Sector offices and support sites, the OSP will require one standard, center-ground power receptacle (NEMA IG-5-15R), 15 amps, 120 volts, to receive a standard three pronged plug. Receptacles must be located within ten feet of the OSP.

(7) The 6100 communications subsystem will require one power receptacle (NEMA IG-L21-20R) on a 20 amp, three phase, 208 volt AC circuit, located within three feet of the communications subsystem cabinet.

(8) Electrical devices unrelated to the MPS will require connection to adequate, clearly-marked convenience receptacles for power. These receptacles must not be fed from the computer room distribution panel, as devices connected to these outlets could feed electrical noise back into the computer power system.

e. Operating Environment. Each site must ensure that adequate environmental conditions are available to support MPS system performance after enhancement. Additional air conditioning requirements may be imposed by the additional thermal load created by the new MPS components. The operating environment requirements associated with individual MPS enhancement components are presented in chapter 3 of this PIP. The operating environment for the aggregate of enhancements is presented herein. Acceptable operating limits for the enhanced MPS are 60 to 85 degrees Fahrenheit and 42% to 70% relative humidity, non-condensing. Thermal drift should not exceed 5 degrees Fahrenheit per hour. Enhancements to the MPS will increase the thermal load (expressed in British thermal units (BTU)) for each site as follows.

Site	Additional BTU's/Hour	Total BTU's/Hour
ARTCC's		
Kansas City	8,800	48,500
All Others	25,100	47,000
Lead GNAS Sectors	No net increase	17,000
FAA Headquarters (ASM-220's system)	11,000	39,700
FAA Technical Center (ACT-110's system)	39,700	65,900
FAA Technical Center (ASM-160's system)	27,500	60,400
FAA Academy (AAC-940's system)	3,745	41,700
FAA Academy (ASM-150's system)	22,300	39,300

Site personnel will need to determine whether the thermal loads cited above require increased air conditioning capacity to meet site requirements. If so, provision must be made to ensure that the operating environment is accommodated before the MPS contractor begins site installation.

f. Storage Environment. MPS enhancement components requiring storage must be stored at the same temperature and relative humidity as stated in paragraph 71e.

72. DELIVERY. Site deliveries of new equipment are scheduled between September 3, 1988 and October 31, 1988. Equipment is scheduled for installation at sites on the dates presented in appendix 1 of this PIP. All dates are expressed in terms of days after the delivery order was placed, August 26, 1988. Installation schedule and priority flexibility will be accommodated by the MPS contractor within forty-five days of notification prior to scheduled delivery by APS-430.

73. INSTALLATION PLAN. The regional, APS-430 and MPS contractor activities and responsibilities associated with the implementation of MPS enhancements are defined in terms of the installation sequence that will be followed at ARTCC, GNAS and support sites. Specific installation direction covering pre- and post-installation procedures, pre- and post-installation floor layouts, and preparation requirements will be contained in an electronic equipment modification (EEM) issued to regional personnel at all sites receiving MPS enhancements. The EEM will define the procedures to be followed by site personnel for shutting down the MPS, demonstrating the operational status of the pre-enhanced MPS for MPS contractor acceptance, and monitoring MPS contractor installation and checkout activities. Instructions for loading the rehosted applications software (IMCS and MMS software) and for re-installing the Guardian operating system (OS) on the enhanced MPS will be issued to the regions in a site program bulletin (SPB). The SPB will include two deliveries of magnetic tapes, one consisting of the new system configuration file, and the other of the rehosted IMCS and MMS software. Each site is required to notify APS-430 if any equipment necessary to achieve MPS enhancement installation is inoperable, and cannot be repaired prior to scheduled installation. The sequence of activities required for implementation of MPS enhancements at ARTCC's, GNAS's and FAA support sites has been divided into four phases, and is described below for each type of site.

a. Installation Sequence, Activities and Responsibilities at ARTCC's. The installation sequence, activities and responsibilities are expressed in terms of pre-contract award, pre-installation, installation, and post-installation phases. The contractor's MPS installation activities will be limited to six consecutive calendar days, broken out as described below,

and as presented in table 7-1. Total system operational unavailability is limited to a maximum of sixty-eight consecutive hours, as broken down in table 7-2.

(1) Pre-Contract Award Phase. A site-specific, pre-installation MPS hardware (equipment) configuration baseline will be established by an NCP initiated by ASM-160, as described in paragraph 70 herein. Pre-installation MPS equipment layouts will be provided each site in the EEM. Each site will be required to be in the configuration baseline by the time the MPS contractor begins installation activities.

(2) Pre-Installation Phase. This phase includes all site AF personnel activities required to shut down IMCS and MMS software, demonstrate and turn over the MPS system to the MPS contractor in preparation for MPS contractor installation. The EEM and SPB will provide the sites direction for the pre-installation and installation support activities required to enable MPS enhancements installation to be performed by the MPS contractor. Installation requirements will be reviewed and discussed with the MPS contractor at a site installation briefing to be conducted fifteen days prior to the scheduled installation (five days prior to installation at the FAA Technical Center, for ACT-110's system). Upon IMCS and MMS software shut down, and until the enhanced MPS is accepted by the site, each site will be required to maintain paper logs of alarms, alerts, and other MMS-maintained information, and to capture NAPRS data on personal computers (PC). The pre-installation phase culminates in MPS contractor acceptance of the existing MPS, after its operational status has been demonstrated to the MPS contractor. Pre-installation activities supporting the scheduled MPS contractor installation must be completed at each site by the date specified on appendix 2, are limited to twelve hours, and will be witnessed by the MPS contractor, who will receive all system test printouts. Pre-installation activities encompass, at a minimum, the following activities, which will be described in detail in the EEM and the SPB.

(a) Edit the configuration file (as required) provided with the SPB on magnetic tape to reflect the site-specific configuration.

(b) Shut down MMS software.

Table 7-1. MPS Contractor Timeframes for Installation Activities at ARTCC's and FAA Support Sites

MPS CONTRACTOR ACTIVITY	MAXIMUM DURATION
Pre-Installation	2 Days
Installation	2 Days
Post-Installation	2 Days

Table 7-2. Total System Operational Unavailability at ARTCC's and FAA Support Sites (except for FAA Headquarters)

IMPLEMENTATION PHASE	DURATION MMS	DURATION IMCS
Pre-Installation	12 Hours	1 Hour
Installation		
- Hardware Installation and Reconfiguration	24 Hours	24 Hours
- Checkout	24 Hours	24 Hours
Post-Installation	8 Hours	8 Hours
Total System Operational Unavailability	68 Hours	57 Hours

(c) Back up all system subvolumes and databases to tape twice.

(d) Backup MMS subvolumes.

(e) Test all asynchronous communications controllers not used by IMCS.

(f) Run any other tests as mutually agreed upon between ASM-160 and the MPS contractor.

(g) Shut down IMCS.

(h) Run processor micro-diagnostics.

(i) Perform OSP checkout.

(j) Run any other tests as mutually agreed upon between ASM-160 and the MPS contractor.

(k) Hand-off of tested MPS hardware to the MPS contractor.

(3) Installation Phase. The installation phase encompasses all activities performed by the MPS contractor to: remove designated equipment (see appendix 2); physically relocate the remaining MPS equipment to the floor locations prescribed in the post-installation floor layouts (see appendix 3), rack board listings (see appendix 4), and patch panels, patch panel inserts, battery back-up and I/O power supply unit listings (see appendix 5); and physically and electronically integrate MPS enhancements. The MPS contractor will perform all installation activities within forty-eight consecutive hours, as presented in Table 7-2, following MPS contractor acceptance of the MPS equipment previously validated during pre-installation. Site personnel will monitor the installation against those same layouts as provided in the EEM. The MPS contractor's installation will include, at a minimum, the following activities.

(a) Removal of the Non-Stop II processors, associated cabling and peripherals as described in paragraph 95 of this PIP.

(b) Physical reconfiguration of the MPS hardware in accordance with post-installation site equipment floor layouts, rack board listings, and patch panels, patch panel inserts, battery back-up and I/O power supply unit listings provided in the procurement package, and in accordance with the equipment separation constraints described in paragraph 32c of this PIP.

(c) Installation of MPS enhancement hardware. This may include replacing processor, I/O disk controller, or memory boards (the revision levels of which may be inadequate to support the installation). A preliminary determination of site-specific board change-out requirements (i.e., boards requiring upgrade to allow integration of MPS hardware) will be included in the EEM. The MPS contractor may also need to replace any defective hardware prior to completing the installation. At the conclusion of the installation, the MPS contractor will provide the sites with a configuration items index list of all equipment installed, including any hardware that was replaced (because the revision level was inadequate or the equipment was faulty) to achieve the installation. The list will specify the equipment nomenclature, revision level, and engineering release for each component installed.

(d) Performance of installation checkout and acceptance tests to validate that integrated enhancements operate satisfactorily. The same tests (see paragraph 73a(2)) used by site personnel to demonstrate the operational status of the MPS system to the MPS contractor during the pre-installation phase will be used by the MPS contractor to demonstrate the performance of the enhanced MPS to the FAA after the enhancements are physically and electronically integrated. The Maintenance Automation Program COTR, or designated representative, will witness all tests. At a minimum, the MPS contractor will perform the checkout activities described in chapter 8 of this PIP.

(e) Packaging of all hardware removed during the installation by the MPS contractor shall be in accordance with (IAW) the Maintenance Processor Subsystem Enhancements Procurement (DTFA01-88-B-06649) as follows.

1. Hardware shall be packaged for shipment in accordance with the best commercial practice for insuring arrival at the required destination in an undamaged condition.

2. Equipment to be shipped to the FAA Depot shall be preserved and packaged IAW MIL-STD-17555H, "Electronic and Electrical Accessories and Provisioned Items (Repair Parts): Packaging of, Level "A" and Packed, Level "B". All packages shall be marked IAW MIL-STD-129J, "Marking for Shipment and Storage", and shall be Bar Coded IAW MIL-STD-1189A "Standard DOD Symbology".

3. Packaging of equipment to be removed from a site shall be in accordance with appendix 2, and shall be individually packed by the MPS contractor in contractor-provided packaging. The MPS contractor is encouraged to re-use the packaging material used to ship MPS enhancements to the sites.

4. Electrostatic Discharge Sensitive (ESDS) items shall be identified IAW DOD-STD-1686, "Electrostatic Dicharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (excluding Electrically Initiated Explosive Devices)". ESDS items shall be preserved, packaged and packed IAW ESDS requirements of MIL-STD-129J and Bar Coded IAW MIL-STD-1189A.

(4) Post-Installation Activities. Post-installation activities will be performed by regional personnel as described in the EEM and SPB. Post-installation activities are divided into three sub-phases, as described below.

(a) A Contract Acceptance Inspection (CAI) will be conducted on site by the Maintenance Automation Program COTR, or designated representative, for each MPS site installation. The MPS contractor will participate in the inspection as required. The MPS contractor's packaging and labeling of removed equipment destined for the FAA Depot, will be inspected by APS-430 or designated representative. Successful conclusion of this inspection, and of MPS contractor testing and checkout, will signify that APS-430 has approved and accepted the enhancement hardware and the installation.

(b) The MPS contractor will ship removed hardware items being used at another GNAS or FAA support site in accordance with appendix 2. Removed items destined for the FAA Depot (see appendix 2) will be packaged by the MPS contractor and shipped by the regions.

(c) Assigned AF personnel will rehost and checkout IMCS and MMS software on the enhanced MPS. Software

rehosting will be performed by site personnel using the magnetic tapes obtained with the SPB. Using the pre-installation phase back-up tapes, site personnel will restore all necessary files, databases and other application software. Assigned personnel will verify the accuracy of the MPS contractor's documentation, and will conduct checkout tests on the rehosted software using the test scripts contained in the SPB to verify the operation of the integrated enhanced MPS system andto validate that MMS software and IMCS function correctly. A site-specific subset of the shakedown tests that were conducted by ASM-160 at the FAA Technical Center will be developed and performed by designated site personnel to assess the readiness of the enhanced system, including procedures and personnel, to assume site-specific operational status. Site shakedown testing will be conducted within the post-installation timeframes shown in table 7-2, between the milestone dates presented in paragraph 41. Upon successful testing of the rehost effort, site acceptance of the enhanced MPS from the Maintenance Automation Program COTR, or designated representative, will be formalized through a Joint Acceptance Inspection (JAI) and associated required documentation (e.g.,Form DD-256).

(d) Regional AF technicians will update MMS data to include the paper logs maintained during system unavailability. This will consist of performing keyboard entry of the MMS data (corrective and preventive maintenance and certification actions) recorded manually on paper logs. Log entries automatically generated by MMS software after rehost may have to be closed.

b. Installation Sequence, Activities and Responsibilities at GNAS Sector Office Sites. The installation sequence, requirements, activities and responsibilities associated with implementation of MPS enhancements at GNAS's are the same as for ARTCC's, except that in addition to installing new MPS enhancement equipment, the MPS contractor will be installing MPS equipment removed from ARTCC's to achieve MPS enhancements implementation. All installations will be completed by the MPS contractor within five consecutive days, broken out as described in table 7-3. Total system operational unavailability for GNAS's is limited to a maximum of forty-four consecutive hours, as broken down in table 7-4. Appendix 1 of this PIP presents a list of MPS enhancements to be installed at GNAS Sector office sites. Appendix 2 identifies existing MPS equipment to be removed from GNAS MPS sites.

Table 7-3. MPS Contractor Timeframes for Installation Activities at GNAS's

MPS CONTRACTOR ACTIVITY	MAXIMUM DURATION
Pre-Installation	2 Days
Installation	1 Day
Post-Installation	2 Days

Table 7-4. Total System Operational Unavailability at GNAS's

IMPLEMENTATION PHASE	DURATION MMS	DURATION IMCS
Pre-Installation	12 Hours	1 Hour
Installation		
- Hardware Installation and Reconfiguration	8 Hours	8 Hours
- Checkout	16 Hours	16 Hours
Post Installation	8 Hours	8 Hours
Total System Operational Unavailability	44 Hours	33 Hours

c. Installation Sequence, Activities and Responsibilities at FAA Support Sites. The installation sequence, requirements, activities and responsibilities associated with implementation of MPS enhancements at FAA support sites are the same as for ARTCC's, except that the MPS contractor will be installing MPS equipment removed from ARTCC's, along with the new equipment procured under the contract, to achieve MPS enhancements implementation. All installations will be completed by the MPS contractor within six consecutive days, as broken out in table 7-1. Except for FAA headquarters, total system operational unavailability at FAA support sites is limited to a maximum of sixty-eight consecutive hours, as presented in table 7-2. Total system operational unavailability at FAA headquarters is limited to a maximum of ninety-two consecutive hours, as broken down in table 7-5. Appendix 1 (MPS enhancement equipment) and appendix 2 (existing MPS equipment to be removed) present lists of equipment to be installed and removed at all five FAA support sites. Support sites that do not maintain MMS log information as part of their duties will not be required to maintain paper logs of MMS data, nor perform keyboard entry of data recorded on paper logs into the MMS software database. Site acceptance of the enhanced MPS following conduct of a CAI by APS-430, testing of the rehosted MMS software and IMCS, and verification of the MPS contractor's documentation will be formalized through the completion and signing of Form DD-256 by the Maintenance Automation Program COTR or designated representative, and the site representative.

74-79. RESERVED.

Table 7-5. Total System Operational Unavailability at FAA Headquarters

IMPLEMENTATION PHASE	DURATION MMS	DURATION IMCS
Pre-Installation	32 Hours	16 Hours
Installation		
- Hardware Installation and Reconfiguration	24 Hours	24 Hours
- Checkout	24 Hours	24 Hours
Post Installation	12 Hours	12 Hours
Total System Operational Unavailability	92 Hours	76 Hours

CHAPTER 8. VERIFICATION

80. FACTORY VERIFICATION. All MPS enhancement hardware and software items subject to implementation under this PIP are commercial-off-the-shelf (COTS) equipment and software. The MPS contractor will perform all commercially-acceptable product testing prior to shipment of the MPS enhancement equipment to the designated locations.

81. CHECKOUT. MPS enhancement checkout activities comprise MPS contractor checkout testing and Government testing as described below.

a. Contractor Checkout Testing. The MPS contractor will conduct checkout tests at each site installation of MPS enhancements. This will encompass performance of tests to verify that MPS enhancement components perform to the MPS contractor's specifications, and to verify the preliminary performance of the enhanced MPS. At the FAA Technical Center, these tests will be performed in accordance with the MPS contractor's installation, checkout and acceptance test plan. At the site, they will be performed in accordance with the MPS contractor's commercial test procedures tailored for each type of site.

b. Government Checkout Activities. Government checkout activities encompass benchmark testing, conducted by ACT-110 at the FAA Technical Center, to verify and validate MPS enhancement equipment performance against the MPS contractor's specifications.

82. CONTRACTOR INTEGRATION TESTING. The MPS contractor will demonstrate the acceptability of the enhanced MPS systems by conducting the same demonstration tests that were performed by site personnel before shutting down the MPS. MPS contractor tests will include, at a minimum, conduct of the following.

a. Guardian OS functionality.

b. OSP checkout.

c. Processor micro-diagnostics.

d. TMDS diagnostics.

Demonstration tests will be conducted in accordance with the MPS contractor's installation, checkout and acceptance test plan at the FAA Technical Center (ACT-110's system), which will be reviewed in an installation briefing five days prior to installation. Demonstration tests will be performed in accordance with installation, checkout and acceptance test procedures, which will be available for review by site personnel at least fifteen days prior to the scheduled site installation briefing. Comments by site personnel on installation, checkout and acceptance test procedures should be available for discussion with the MPS contractor at a site installation briefing to be conducted fifteen days prior to the scheduled installation. AF site personnel will witness the integration tests and record the results in a site acceptance test report.

83. CONTRACT ACCEPTANCE INSPECTION (CAI). A contract acceptance inspection will be conducted by the Maintenance Automation Program COTR or designee at each MPS site, at the conclusion of all MPS contractor site installation, checkout and acceptance testing, and equipment packaging activities. The Maintenance Automation Program COTR or designee will review the MPS contractor's acceptance test results, the completeness of the configuration items index, and the adequacy of removed equipment packaging and labeling. Test data and technical documentation will also be reviewed during CAI. Successful conclusion of the CAI signifies APS-430 acceptance of the MPS enhancement equipment installed at the site for which the CAI is conducted. Acceptance is formalized by the completion and signing of Form DD-256 by the Maintenance Automation Program COTR or designated representative, and the site representative.

84. FAA INTEGRATION TESTING. Integration testing of MPS enhancements will be conducted by ACT-110 (after the first of two deliveries) at the FAA Technical Center to determine the performance of the enhanced MPS configuration, rehosted with IMCS and MMS software. FAA integration testing will be performed in accordance with the integration test plan and procedures developed by ACT-110. Integration test results will be compiled by ACT-110 in an integration test report.

85. SHAKEDOWN AND CHANGEOVER. Operational test and evaluation (OT&E) shakedown test activities will be performed by ASM-160 at the FAA Technical Center to determine the degree to which the enhanced MPS is ready to assume operational status. This will encompass development and conduct of tests by ASM-160 to assess the suitability of enhanced MPS performance in an operational

setting, the adequacy of associated operating procedures, and the viability of trained personnel to operate and maintain the system at GNAS and ARTCC sites. A site-specific, subset of the shakedown tests will be developed and performed by designated site personnel to assess the readiness of the enhanced system, including procedures and personnel, to assume site-specific operational status. This may encompass some of the same shakedown tests performed by ASM-160 at the FAA Technical Center, or a modification of those tests by the site for site-specific applications. The EEM will provide additional details on other tests to be conducted at each type of site (i.e., GNAS or ARTCC).

86. JOINT ACCEPTANCE INSPECTION. After the EEM activities (see paragraph 87), and operational site shakedown testing at the operational sites, a JAI will be conducted at those sites to verify the following items.

a. Completeness and acceptability of all MPS contractor site installations, modifications and acceptance demonstrations as certified by the CAI results.

b. Completion of EEM activities.

c. Completeness and adequacy of site shakedown testing.

d. Capability of each site to fulfill integrated logistic support requirements.

e. Completeness and adequacy of site documentation.

f. Adequacy of site personnel for operating and maintaining the MPS.

g. Adequacy of JAI discrepancy resolutions.

Successful completion of the JAI is formalized in required JAI documentation between the site and APS-430. The JAI constitutes formal acceptance of site-integrated MPS enhancements by the site from APS-430, and transfers configuration control responsibility and support to the region.

87. KEY SITE TESTING. Other Government test activities include key site testing of MPS enhancements, conducted at the first operational ARTCC (ZHU) and the first operational GNAS (DFW) by ASM-160. The primary purpose of key site testing is to validate

the EEM and SPB pre-installation procedures for MPS shutdown, and post-installation procedures for software rehosting, re-entry of MMS log data, and running test scripts. Validation of the EEM will occur at the first operational site (also the first keysite) (ZHU), and at the third operational site (also the second keysite) (DFW). The EEM and SPB will be finalized for national distribution, and issued to regions at the conclusion of key site testing.

88-89. RESERVED.

CHAPTER 9. INTEGRATED LOGISTIC SUPPORT

90. MAINTENANCE CONCEPT. The maintenance concept associated with logistic support of newly-implemented MPS enhancements comprises site- and depot-level hardware and software maintenance to be implemented in two phases. During both phases, site-level maintenance will be performed by site personnel, trained as described in paragraph 91 herein, and will be limited to the performance of diagnostics, and pull-and-replace actions on failed or faulty line replaceable units (LRU). Under the first phase of maintenance support, depot-level maintenance will be provided through a warranty agreement with the MPS contractor for the first year after site implementation. Faulty or failed LRU's will be returned directly to the FAA Depot from the site for repair or replacement. Under the warranty agreement, the MPS contractor's equipment mean-time-to-repair (MTTR) is 48 hours. The second phase of depot-level maintenance support will be assumed by the FAA Depot upon expiration of the warranty agreement. Failed or faulty LRU's will be shipped to the FAA Depot for replacement or repair. The MPS contractor will identify support tools and test equipment required for the life-cycle support of MPS enhancement hardware.

91. TRAINING. Selected AF site personnel will be trained in the diagnosis of failed or faulty LRU's through hardware and software maintenance classes as specified in the MPS Enhancement Subsystem Training Plan (STP). Hardware and software maintenance training classes will be distributed between the first and last operational site installations to allow students from each facility to be fully trained prior to their site undergoing equipment installation. The hardware and software maintenance training classes will be scheduled sequentially so that a student can be trained on both hardware and software maintenance without a break in continuity.

a. Fault Diagnosis Selected AF personnel will be trained to perform fault diagnostics on the following hardware and software items.

(1) Hardware.

(a) Tandem 1435, NonStop TXP.

(b) Tandem 1G and 1H, OSP Upgrade.

(c) Tandem 4130 (XL8) and 4134 (XL4) disk drives, along with the Tandem 3108 disk controller.

(d) Tandem 5104-B, 125 IPS tape drive, along with the Tandem 3207 tape controller.

(e) Tandem 6100-series communications equipment and systems.

(f) Tandem 5130-1 200 IPS tape drive.

(g) Tandem 5518 dot matrix line printer.

(h) Tandem 6304 asynchronous communications controller extension board.

(i) Tandem 7501 asynchronous patch panel.

(j) Tandem 7301 input/output-only power supply unit.

(k) Tandem 6700 fiber-optic extension.

(l) Tandem 5520 high-speed serial matrix printer.

(m) Tandem 6120 line interface unit, RS-232-C.

(n) Tandem 6140 line interface unit (LIU-4).

(2) Software.

(a) Tandem 9086, Measure.

(b) Tandem 9071, VIEWSYS.

(c) Tandem Guardian 90XF.

(d) Tandem TMF.

(e) Tandem 6100 ADCCP.

(f) Tandem ATP6100.

b. MPS hardware and software maintenance training outcomes and objectives.

(1) Hardware.

(a) Locate and identify all assemblies and subassemblies.

(b) Perform system power-up, power-down, start-up, start-over, recovery, and change of operational modes.

(c) Perform configuration and reconfiguration in accordance with system requirements.

(d) Perform periodic diagnostic software tests on the system components and associated peripheral equipment and visually inspect all indicator lights to determine equipment operational status.

(e) Analyze and identify problems by interpreting results of functional and diagnostic tests.

(f) Use functional and flow diagrams to localize malfunctions to the appropriate assembly.

(g) Use proper test equipment, functional diagrams, and system support software to isolate malfunctions to the line replaceable unit (LRU).

(h) Perform removal and replacement of faulty PCB's or components properly on off-line equipment, with no service interruption.

(2) Software.

(a) Perform systems generation and configuration consistent with the latest operating system release provided by the MPS contractor.

(b) Write control functions using special function keys.

(c) Evaluate an audit trail created as part of recovery methods used to protect a data base.

(d) Analyze system performance to optimize system configuration.

(e) Develop systems applications using support software.

c. Pre-requisite IMCS and MMS Application Training. Students scheduled to receive MPS hardware and software maintenance training will need to have completed the following pre-requisite training courses.

(1) Hardware.

(a) 44415, "Microprocessors" 120 hours (3 weeks), AAC-940.

(b) 43495, Tandem T-16 Processor Maintenance (4 weeks).

(c) 47404, Fundamentals of Data Communications (1 week).

(2) Software.

(a) 43522 Tandem Systems Management (4 weeks).

(b) 47404 Fundamentals of Data Communications (1 week).

92. SUPPORT TOOLS AND TEST EQUIPMENT. The MPS contractor will provide his own support tools and test equipment as required to achieve the installation.

93. SUPPLY SUPPORT. MPS enhancements supply support will be achieved through the FAA Depot. An initial supply of spares is being procured by the program office and will be shipped for storage at the FAA Depot. A provisioning conference will be scheduled during a joint NAS integrated logistic support management team (NAILSMT)/ILS guidance conference. MPS enhancement components will be broken down during the provisioning conference to assess additional supply support requirements for the life-cycle support of the fielded MPS enhancements. Spare parts will be available at the FAA Depot;

site stocks will be available at each site. Supply support of spare parts will be handled under the MPS contractor's warranty, by the MPS contractor, for any supplies required as a result of repair actions (under the warranty agreement) during the first year after site implementation.

94. VENDOR DATA AND TECHNICAL MANUALS. The MPS contractor will provide the following support documentation to APS-430 and to each MPS site.

a. Technical manuals.

(1) Operator/users manuals.

(2) Hardware repair manuals.

(3) Installation requirements (space and power).

(4) Installation and equipment removal instructions.

(5) Software development tools list.

(6) Diagnostics/diagnostic interpretations.

(7) Maintenance instructions.

(8) Overhaul instructions.

(9) Schematics and wiring diagrams.

b. Provisioning Technical Documentation (PTD).

(1) LSA-061 Report, Parts Master File.

(2) Spare Parts-Peculiar List.

(3) Long-Lead Items List.

In addition, all class materials distributed to students during the MPS enhancements hardware and software maintenance training class will be retained by each student. A spare set of the instruction materials will be available at the FAA Academy.

95. EQUIPMENT REMOVAL. Tandem NonStop II processors will be removed from ARTCC's by the MPS contractor during the

installation phase. This equipment will either be shipped to GNAS's or FAA support sites to support the implementation of MPS enhancements at those sites. Appendix 2 of this PIP presents a site-specific equipment removal and destination list. In general, the following equipment will be removed from sites and returned to the FAA Depot.

a. Disk drives (including disk packs and cabling).

b. Disk controllers.

c. Disk patch panels.

d. Patch panel cabinets.

e. 0.5-MB memory boards.

Packaging of all equipment removed by the MPS contractor to achieve MPS enhancements, which will be shipped to the FAA Depot, will be performed by the MPS contractor in accordance with paragraph 73.a(3)(e) herein, and will be subject to FAA inspection during the contract acceptance inspection (CAI). Shipment of the equipment removed from an ARTCC will be performed by the MPS contractor for all equipment destined for GNAS or support site implementation. Site personnel will be responsible for shipping the remaining removed equipment to the FAA Depot.

96. FACILITIES. Facility impacts associated with MPS enhancements implementation are those resulting from fulfilling the site preparation requirements detailed in chapter 7 of this PIP.

97-99. RESERVED.

APPENDIX 1. MPS ENHANCEMENT INSTALLATION SCHEDULE

The MPS contractor will deliver hardware, spares, software, support, documentation and manuals to each MPS site. The Guardian operating system (OS) will be delivered to each site as required. Installation will be in accordance with the following schedule. A description of each item follows the schedule.

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
FAA Technical Center, ACT-110 MPS SITE # 25 (Delivery 1)			
	2500A	1	7
	5030A	1	7
	5032A	1	7
	5033A	1	7
	5034A	1	7
	5091	2	7
	5092	2	90
	5093	3	90
	6001	2	7
	6002	4	7
	6003	1	7
	6005	1	7
	6006	4	7
	6008	1	7
	6009	1	7
	6010	1	7
	6011	2	7
	6012	2	7
	6013	1	7
	6014	1	7
	6016	4	7
	6029	1	7
	6029A	2	7
	6029B	37	7
	6029C	8	7

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
FAA Technical Center, ACT-110 MPS SITE # 25 (Delivery 2)			
	2500B	1	57
	6001	3	57
	6002	3	57
	6005	1	57
	6006	4	57
	6010	1	57
	6011	3	57
	6012	3	57
	6015	2	57
	6019	1	57
	6020	1	57
	6021	1	57
	6022	1	57
	6023	1	57
	6024	1	57
	6025	1	57
	6026	2	57
	6026A	2	57
	6027	2	57
	6027A	2	57
	6028	1	57
Mike Monroney Aeronautical Center, AAC-940 MPS SITE # 27			
	2700	1	59
	5030B	1	59
	5032B	1	59
	5033B	1	59
	5034B	1	59
	5091	2	59
	5092	9	59
	5093	8	59

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6001	2	59
	6002	8	59
	6003	1	59
	6005	1	59
	6006	4	59
	6008	1	59
	6009	1	59
	6010	1	59
	6011	1	59
	6012	1	59
	6013	1	59
	6014	1	59
	6015	1	59
	6016	4	59
	6029	1	59
	6029A	1	59
	6029B	22	59
	6029C	8	59
Houston ARTCC (ZHU) MPS SITE # 8			
	0800	1	101
	5030B	1	101
	5032B	1	101
	5033B	1	101
	5034B	1	101
	5091	2	101
	5092	2	101
	5093	1	101
	6001	2	101
	6002	2	101
	6003	1	101
	6005	1	101
	6006	4	101
	6008	1	101
	6009	1	101
	6010	1	101
	6011	2	101

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6012	2	101
	6013	1	101
	6014	1	101
	6016	4	101
	6029	1	101
	6029A	2	101
	6029B	37	101
	6029C	8	101
Ft. Worth ARTCC (ZFW) MPS SITE # 6			
	0600	1	108
	5030B	1	108
	5032B	1	108
	5033B	1	108
	5034B	1	108
	5091	2	108
	5092	2	108
	5093	1	108
	6001	2	108
	6002	2	108
	6003	1	108
	6005	1	108
	6006	4	108
	6008	1	108
	6009	1	108
	6010	1	108
	6011	2	108
	6012	2	108
	6013	1	108
	6014	1	108
	6016	4	108
	6029	1	108
	6029A	2	108
	6029B	37	108
	6029C	8	108

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
Dallas/Ft. Worth AFS (DFW) MPS SITE # 29			
	2900	1	132
	5030B	1	132
	5032B	1	132
	5091	2	132
	5092	1	132
	5093	1	132
	6002	4	132
	6007	2	132
	6017	1	132
New York ARTCC (ZNY) MPS SITE # 22			
	2200	1	139
	5030B	1	139
	5032B	1	139
	5033B	1	139
	5034B	1	139
	5091	2	139
	5092	2	139
	5093	1	139
	6001	2	139
	6002	2	139
	6003	1	139
	6005	1	139
	6006	4	139
	6008	1	139
	6009	1	139
	6010	1	139
	6011	2	139
	6012	2	139
	6013	1	139
	6014	1	139
	6016	4	139
	6029	1	139
	6029A	2	139

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6029B	37	139
	6029C	8	139
Memphis ARTCC (ZME)			
MPS SITE # 13			
	1300	1	139
	5030B	1	139
	5032B	1	139
	5033B	1	139
	5034B	1	139
	5091	2	139
	5092	2	139
	5093	1	139
	6001	2	139
	6002	2	139
	6003	1	139
	6008	1	139
	6009	1	139
	6010	1	139
	6011	2	139
	6012	2	139
	6013	1	139
	6014	1	139
	6016	4	139
	6018	1	139
	6018B	4	139
	6029	1	139
	6029A	2	139
	6029B	37	139
	6029C	8	139
Memphis AFS (MEM)			
MPS SITE # 30			
	3000	1	146
	5030B	1	146
	5032B	1	146
	5091	2	146
	5092	1	146

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5093	1	146
	6002	4	146
	6007	2	146
	6017	1	146
Atlanta ARTCC (ZTL) MPS SITE # 5			
	0500	1	146
	5030B	1	146
	5032B	1	146
	5033B	1	146
	5034B	1	146
	5091	2	146
	5092	2	146
	5093	1	146
	6001	2	146
	6002	2	146
	6003	1	146
	6005	1	146
	6006	4	146
	6008	1	146
	6009	1	146
	6010	1	146
	6011	2	146
	6012	2	146
	6013	1	146
	6014	1	146
	6016	4	146
	6029	1	146
	6029A	2	146
	6029B	37	146
	6029C	8	146
Kansas City ARTCC (ZKC) MPS SITE # 1			
	0100	1	220
	5030B	1	220
	5032B	1	220

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5033B	1	220
	5034B	1	220
	5091	2	220
	5092	2	220
	5093	1	220
	6001	2	220
	6002	2	220
	6003	1	220
	6008	1	220
	6009	1	220
	6010	1	220
	6011	2	220
	6012	2	220
	6013	1	220
	6014	1	220
	6016	4	220
	6018	2	220
	6018B	8	220
	6029	1	220
	6029A	2	220
	6029B	37	220
	6029C	8	220
Boston ARTCC (ZBW) MPS SITE # 23			
	2300	1	153
	5030B	1	153
	5032B	1	153
	5033B	1	153
	5034B	1	153
	5091	2	153
	5092	2	153
	5093	1	153
	6001	2	153
	6002	2	153
	6003	1	153
	6005	1	153
	6006	4	153

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6008	1	153
	6009	1	153
	6010	1	153
	6011	2	153
	6012	2	153
	6013	1	153
	6014	1	153
	6016	4	153
	6029	1	153
	6029A	2	153
	6029B	37	153
	6029C	8	153
St. Louis AFS (STL) MPS SITE # 34			
	3400	1	160
	5030B	1	160
	5032B	1	160
	5091	2	160
	5092	1	160
	5093	1	160
	6002	6	160
	6007	2	160
	6017	1	160
Chicago ARTCC (ZAU) MPS SITE # 4			
	0400	1	160
	5030B	1	160
	5032B	1	160
	5033B	1	160
	5034B	1	160
	5091	2	160
	5092	2	160
	5093	1	160
	6001	2	160
	6002	2	160
	6003	1	160

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6005	1	160
	6006	4	160
	6008	1	160
	6009	1	160
	6010	1	160
	6011	2	160
	6012	2	160
	6013	1	160
	6014	1	160
	6016	4	160
	6029	1	160
	6029A	2	160
	6029B	37	160
	6029C	8	160
Los Angeles ARTCC (ZLA) MPS SITE # 2			
	0200	1	167
	5030B	1	167
	5032B	1	167
	5033B	1	167
	5034B	1	167
	5091	2	167
	5092	2	167
	5093	1	167
	6001	2	167
	6002	2	167
	6003	1	167
	6005	1	167
	6006	4	167
	6008	1	167
	6009	1	167
	6010	1	167
	6011	2	167
	6012	2	167
	6013	1	167
	6014	1	167

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6016	4	167
	6029	1	167
	6029A	2	167
	6029B	37	167
	6029C	8	167
Indianapolis ARTCC (ZID) MPS SITE # 19			
	1900	1	167
	5030B	1	167
	5032B	1	167
	5033B	1	167
	5034B	1	167
	5091	2	167
	5092	2	167
	5093	1	167
	6001	2	167
	6002	2	167
	6003	1	167
	6005	1	167
	6006	4	167
	6008	1	167
	6009	1	167
	6010	1	167
	6011	2	167
	6012	2	167
	6013	1	167
	6014	1	167
	6016	4	167
	6029	1	167
	6029A	2	167
	6029B	37	167
	6029C	8	167
Seattle ARTCC (ZSE) MPS SITE # 14			
	1400	1	174
	5030B	1	174

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5032B	1	174
	5033B	1	174
	5034B	1	174
	5091	2	174
	5092	2	174
	5093	1	174
	6001	2	174
	6002	2	174
	6003	1	174
	6005	1	174
	6006	4	174
	6008	1	174
	6009	1	174
	6010	1	174
	6011	2	174
	6012	2	174
	6013	1	174
	6014	1	174
	6016	4	174
	6029	1	174
	6029A	2	174
	6029B	37	174
	6029C	8	174
Washington ARTCC (ZDC) MPS SITE # 21			
	2100	1	174
	5030B	1	174
	5032B	1	174
	5033B	1	174
	5034B	1	174
	5091	2	174
	5092	2	174
	5093	1	174
	6001	2	174
	6002	2	174
	6004	1	174

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6005	1	174
	6006	4	174
	6008	1	174
	6009	1	174
	6010	1	174
	6011	2	174
	6012	2	174
	6013	1	174
	6014	1	174
	6016	4	174
	6029	1	174
	6029A	2	174
	6029B	37	174
	6029C	8	174
Albuquerque ARTCC (ZAB) MPS SITE # 10			
	1000	1	181
	5030B	1	181
	5032B	1	181
	5033B	1	181
	5034B	1	181
	5091	2	181
	5092	2	181
	5093	1	181
	6001	2	181
	6002	2	181
	6003	1	181
	6005	1	181
	6006	4	181
	6008	1	181
	6009	1	181
	6010	1	181
	6011	2	181
	6012	2	181
	6013	1	181
	6014	1	181

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6016	4	181
	6029	1	181
	6029A	2	181
	6029B	37	181
	6029C	8	181
Jacksonville ARTCC (ZJX) MPS SITE # 9			
	0900	1	181
	5030B	1	181
	5032B	1	181
	5033B	1	181
	5034B	1	181
	5091	2	181
	5092	2	181
	5093	1	181
	6001	2	181
	6002	2	181
	6003	1	181
	6005	1	181
	6006	4	181
	6008	1	181
	6009	1	181
	6010	1	181
	6011	2	181
	6012	2	181
	6013	1	181
	6014	1	181
	6016	4	181
	6029	1	181
	6029A	2	181
	6029B	37	181
	6029C	8	181
Denver ARTCC (ZDV) MPS SITE # 17			
	1700	1	188
	5030B	1	188

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5032B	1	188
	5033B	1	188
	5034B	1	188
	5091	2	188
	5092	2	188
	5093	1	188
	6001	2	188
	6002	2	188
	6003	1	188
	6005	1	188
	6006	4	188
	6008	1	188
	6009	1	188
	6010	1	188
	6011	2	188
	6012	2	188
	6013	1	188
	6014	1	188
	6016	4	188
	6029	1	188
	6029A	2	188
	6029B	37	188
	6029C	8	188
Minneapolis ARTCC (ZMP) MPS SITE # 18			
	1800	1	188
	5030B	1	188
	5032B	1	188
	5033B	1	188
	5034B	1	188
	5091	2	188
	5092	2	188
	5093	1	188
	6001	2	188
	6002	2	188
	6003	1	188

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6005	1	188
	6006	4	188
	6008	1	188
	6009	1	188
	6010	1	188
	6011	2	188
	6012	2	188
	6013	1	188
	6014	1	188
	6016	4	188
	6029	1	188
	6029A	2	188
	6029B	37	188
	6029C	8	188
Salt Lake City ARTCC (ZLC) MPS SITE # 16			
	1600	1	195
	5030B	1	195
	5032B	1	195
	5033B	1	195
	5034B	1	195
	5091	2	195
	5092	2	195
	5093	1	195
	6001	2	195
	6002	2	195
	6003	1	195
	6005	1	195
	6006	4	195
	6008	1	195
	6009	1	195
	6010	1	195
	6011	2	195
	6012	2	195
	6013	1	195
	6014	1	195

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6016	4	195
	6029	1	195
	6029A	2	195
	6029B	37	195
	6029C	8	195
Cleveland ARTCC (ZOB) MPS SITE # 20			
	2000	1	195
	5030B	1	195
	5032B	1	195
	5033B	1	195
	5034B	1	195
	5091	2	195
	5092	2	195
	5093	1	195
	6001	2	195
	6002	2	195
	6003	1	195
	6005	1	195
	6006	4	195
	6008	1	195
	6009	1	195
	6010	1	195
	6011	2	195
	6012	2	195
	6013	1	195
	6014	1	195
	6016	4	195
	6029	1	195
	6029A	2	195
	6029B	37	195
	6029C	8	195
Oakland ARTCC (ZOA) MPS SITE # 12			
	1200	1	202
	5030B	1	202
	5032B	1	202

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5033B	1	202
	5034B	1	202
	5091	2	202
	5092	2	202
	5093	1	202
	6001	2	202
	6002	2	202
	6003	1	202
	6005	1	202
	6006	4	202
	6008	1	202
	6009	1	202
	6010	1	202
	6011	2	202
	6012	2	202
	6013	1	202
	6014	1	202
	6016	4	202
	6029	1	202
	6029A	2	202
	6029B	37	202
	6029C	8	202
Miami ARTCC (ZMA) MPS SITE # 11			
	1100	1	202
	5030B	1	202
	5032B	1	202
	5033B	1	202
	5034B	1	202
	5091	2	202
	5092	2	202
	5093	1	202
	6001	2	202
	6002	2	202
	6003	1	202
	6005	1	202
	6006	4	202

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6008	1	202
	6009	1	202
	6010	1	202
	6011	2	202
	6012	2	202
	6013	1	202
	6014	1	202
	6016	4	202
	6029	1	202
	6029A	2	202
	6029B	37	202
	6029C	8	202
Honolulu ARTCC (ZHN) MPS SITE # 15			
	1500	1	209
	5030B	1	209
	5032B	1	209
	5033B	1	209
	5034B	1	209
	5091	2	209
	5092	2	209
	5093	1	209
	6001	2	209
	6002	5	209
	6003	1	209
	6005	1	209
	6006	4	209
	6008	1	209
	6009	1	209
	6010	1	209
	6011	2	209
	6012	2	209
	6013	1	209
	6014	1	209
	6016	4	209
	6029	1	209
	6029A	2	209

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6029B	37	209
	6029C	8	209
San Juan ARTCC (ZSU) MPS SITE # 7			
	0700	1	209
	5030B	1	209
	5032B	1	209
	5033B	1	209
	5034B	1	209
	5091	2	209
	5092	2	209
	5093	1	209
	6001	2	209
	6002	5	209
	6003	1	209
	6005	1	209
	6006	4	209
	6008	1	209
	6009	1	209
	6010	1	209
	6011	2	209
	6012	2	209
	6013	1	209
	6014	1	209
	6016	4	209
	6029	1	209
	6029A	2	209
	6029B	37	209
	6029C	8	209
Fairbanks AFS (FAI) MPS SITE # 38			
	3800	1	216
	5030B	1	216
	5032B	1	216
	5091	2	216
	5092	1	216

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5093	1	216
	6002	4	216
	6007	2	216
	6017	1	216
Norfolk AFS (ORF) MPS SITE # 31			
	3100	1	216
	5030B	1	216
	5032B	1	216
	5091	2	216
	5092	1	216
	5093	1	216
	6002	4	216
	6007	2	216
	6017	1	216
Anchorage ARTCC (ZAN) MPS SITE # 3			
	0300	1	223
	5030B	1	223
	5032B	1	223
	5033B	1	223
	5034B	1	223
	5091	2	223
	5092	2	223
	5093	1	223
	6001	2	223
	6002	5	223
	6003	1	223
	6005	1	223
	6006	4	223
	6008	1	223
	6009	1	223
	6010	1	223
	6011	2	223
	6012	2	223
	6013	1	223
	6014	1	223

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6016	4	223
	6029	1	223
	6029A	2	223
	6029B	37	223
	6029C	8	223
FAA Headquarters MPS SITE # 24			
	2400	1	223
	5030B	1	223
	5032B	1	223
	5034B	1	223
	5091	2	223
	6001	4	223
	6004	1	223
	6005	2	223
	6006	8	223
	6010	1	223
	6011	4	223
	6012	4	223
	6013	1	223
	6014	1	223
	6015	4	223
	6016	4	223
	6019	1	223
	6027	4	223
	6027A	4	223
	6028	1	223
Edwards AFB (WJF) MPS SITE # 37			
	3700	1	230
	5030B	1	230
	5032B	1	230
	5091	2	230
	5092	1	230
	5093	1	230
	6002	4	230
	6007	2	230
	6017	1	230

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
Windsor Locks AFS (BDL) MPS SITE # 32			
	3200	1	230
	5030B	1	230
	5032B	1	230
	5091	2	230
	5092	1	230
	5093	1	230
	6002	4	230
	6007	2	230
	6017	1	230
Wichita AFS (ICT) MPS SITE # 35			
	3500	1	237
	5030B	1	237
	5032B	1	237
	5091	2	237
	5092	1	237
	5093	1	237
	6002	4	237
	6007	2	237
	6017	1	237
Mike Monroney Aeronautical Center, ASM-150 MPS SITE # 28			
	2800	1	237
	5030B	1	237
	5032B	1	237
	5034B	1	237
	5091	2	237
	5092	1	237
	5093	1	237
	6001	2	237
	6002	2	237
	6004	1	237

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	6005	1	237
	6006	2	237
	6010	1	237
	6011	2	237
	6012	2	237
	6013	1	237
	6014	1	237
	6015	1	237
	6016	2	237
Detroit AFS (DTW) MPS SITE # 33			
	3300	1	244
	5030B	1	244
	5032B	1	244
	5091	2	244
	5092	1	244
	5093	1	244
	6002	4	244
	6007	2	244
	6017	1	244
Denver AFS (DEN) MPS SITE # 36			
	3600	1	244
	5030B	1	244
	5032B	1	244
	5091	2	244
	5092	1	244
	5093	1	244
	6002	4	244
	6007	2	244
	6017	1	244
FAA Technical Center, ASM-160 MPS SITE # 26			
	2600	1	251
	5030B	1	251

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5032B	1	251
	5033B	1	251
	5034B	1	251
	5091	2	251
	5092	2	251
	5093	2	251
	6001	2	251
	6002	4	251
	6003	1	251
	6005	2	251
	6006	8	251
	6008	1	251
	6009	1	251
	6010	1	251
	6011	4	251
	6012	4	251
	6013	1	251
	6014	1	251
	6015	1	251
	6016	4	251
	6029	1	251
	6029A	1	251
	6029B	22	251
	6029C	8	251
FAA Depot, AAC-480 (Delivery 1)			
	5001	1	60
	5002A	2	60
	5002B	2	60
	5002C	2	60
	5002D	2	60
	5002E	2	60
	5002F	2	60
	5002G	2	60
	5002H	2	60
	5002I	2	60
	5002J	2	60

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5002K	2	60
	5002L	2	60
	5002M	2	60
	5002N	2	60
	5003A	1	60
	5005A	2	60
	5005B	2	60
	5005C	2	60
	5005D	2	60
	5005E	2	60
	5005F	2	60
	5005G	2	60
	5005H	2	60
	5005I	2	60
	5005J	2	60
	5005K	2	60
	5006A	3	60
	5006B	3	60
	5011A	1	60
	5011B	1	60
	5011C	1	60
	5015A	1	60
	5015B	1	60
	5016A	2	60
	5029D	1	60
	5029E	1	60
	5029F	1	60
	5029G	1	60
	5029H	1	60
	5029I	1	60
	5029J	2	60
	5029K	3	60
	5029L	20	60
	5029C	4	60

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
FAA Depot, AAC-480 (Delivery 2)			
	5001	2	251
	5002A	3	251
	5002B	3	251
	5002C	3	251
	5002D	3	251
	5002E	3	251
	5002F	3	251
	5002G	3	251
	5002H	3	251
	5002I	3	251
	5002J	3	251
	5002K	3	251
	5002L	3	251
	5002M	3	251
	5002N	3	251
	5003A	1	251
	5005A	2	251
	5005B	2	251
	5005C	2	251
	5005D	2	251
	5005E	2	251
	5005F	2	251
	5005G	2	251
	5005H	2	251
	5005I	2	251
	5005J	2	251
	5005K	2	251
	5006A	4	251
	5006B	4	251
	5011A	2	251
	5011B	2	251
	5011C	2	251
	5015A	2	251
	5015B	2	251
	5016A	2	251

MPS SITE/ LOCATION	ITEM	QUANTITY	WITHIN DAYS AFTER DELIVERY ORDER*
	5029D	1	251
	5029E	1	251
	5029F	1	251
	5029G	1	251
	5029H	1	251
	5029I	1	251
	5029J	2	251
	5029K	3	251
	5029L	40	251
	5029C	6	251

* Refers to within days of MPS contractor's receipt of delivery order (DO), which occurred on August 26, 1988.

A description of each delivery item follows.

ITEM	DESCRIPTION
Installation	
0100	Installation, Integration and Checkout for MPS Site # 1
0200	Installation, Integration and Checkout for MPS Site # 2
0300	Installation, Integration and Checkout for MPS Site # 3
0400	Installation, Integration and Checkout for MPS Site # 4
0500	Installation, Integration and Checkout for MPS Site # 5
0600	Installation, Integration and Checkout for MPS Site # 6
0700	Installation, Integration and Checkout for MPS Site # 7
0800	Installation, Integration and Checkout for MPS Site # 8
0900	Installation, Integration and Checkout for MPS Site # 9
1000	Installation, Integration and Checkout for MPS Site # 10
1100	Installation, Integration and Checkout for MPS Site # 11
1200	Installation, Integration and Checkout for MPS Site # 12
1300	Installation, Integration and Checkout for MPS Site # 13
1400	Installation, Integration and Checkout for MPS Site # 14
1500	Installation, Integration and Checkout for MPS Site # 15
1600	Installation, Integration and Checkout for MPS Site # 16
1700	Installation, Integration and Checkout for MPS Site # 17
1800	Installation, Integration and Checkout for MPS Site # 18
1900	Installation, Integration and Checkout for MPS Site # 19
2000	Installation, Integration and Checkout for MPS Site # 20
2100	Installation, Integration and Checkout for MPS Site # 21
2200	Installation, Integration and Checkout for MPS Site # 22
2300	Installation, Integration and Checkout for MPS Site # 23
2400	Installation, Integration and Checkout for MPS Site # 24
2500A	Installation, Integration and Checkout for MPS Site # 25 (Delivery 1)

ITEM	DESCRIPTION
2500B	Installation, Integration and Checkout for MPS Site # 25 (Delivery 2)
2600	Installation, Integration and Checkout for MPS Site # 26
2700	Installation, Integration and Checkout for MPS Site # 27
2800	Installation, Integration and Checkout for MPS Site # 28
2900	Installation, Integration and Checkout for MPS Site # 29
3000	Installation, Integration and Checkout for MPS Site # 30
3100	Installation, Integration and Checkout for MPS Site # 31
3200	Installation, Integration and Checkout for MPS Site # 32
3300	Installation, Integration and Checkout for MPS Site # 33
3400	Installation, Integration and Checkout for MPS Site # 34
3500	Installation, Integration and Checkout for MPS Site # 35
3600	Installation, Integration and Checkout for MPS Site # 36
3700	Installation, Integration and Checkout for MPS Site # 37
3800	Installation, Integration and Checkout for MPS Site # 38

Spares

Spares for Item 6001

Spares for Item 6002 as Follows:

5002A	FAN:AXL:4.5 110 CFM, Part Number 23747 or Equal
5002B	W:18AWG:UL1430 RED, Part Number 24517 or Equal
5002C	PWA SMP BASE ASM (EX), Part Number 42540 or Equal
5002D	ASM PANEL CNTL KEYED, Part Number 45040 or Equal
5002E	BATTERY PACK, Part Number 51550 or Equal
5002F	ASM UPS 60HZ W/O BAT, Part Number 52655 or Equal
5002G	ASM P/S I/O 115V, Part Number 52730 or Equal
5002H	POWER SUPPLY CPU, Part Number 53270 or Equal
5002I	PWA REGULATOR I/O, Part Number 54600 or Equal
5002J	PWA IPU RSWD, Part Number 54760 or Equal
5002K	PWA MCB RSWD, Part Number 54770 or Equal

ITEM	DESCRIPTION
5002L	PWA CCD, Part Number 54840 or Equal
5002M	PWA SEMI-MEM 2MB, Part Number 57740 or Equal
5002N	PWA IPB CTRLR TNSII, Part Number 57840 or Equal
	Spares for Items 6003 and 6004 as Follows:
5003A	SMP BOARD, Part Number 42540 or Equal
	Spares for Items 6005 as Follows:
5005A	ASM PDU 60HZ, Part Number 40780 or Equal
5005B	ASM FAN CABINET EXHA, Part Number 40782 or Equal
5005C	ASM FAN PSM, Part Number 40813 or Equal
5005D	CBA:CNTL TO PATCH PN, Part Number 40841 or Equal
5005E	DISC DRIVE MODULE XL8, Part Number 40853 or Equal
5005F	TERMINATOR CNTL D/C, Part Number 40918 or Equal
5005G	PWA DISK P/S 6 OUT, Part Number 44239 or Equal
5005H	PWA J BOARD, Part Number 44255 or Equal
5005I	CBA:CONTROL JUMPER, Part Number 49388 or Equal
5005J	CBA:CONTROL EXTERNAL, Part Number 49392 or Equal
5005K	CBA:DATA EXTERNAL 35, Part Number 49395 or Equal
	Spares for Items 6006 and 6007 as Follows:
5006A	3108 CHNL I/F KIT, Part Number 40880 or Equal
5006B	3108 DISC I/F KIT/NE, Part Number 40884 or Equal
	Spares for Item 6011 as Follows:
5011A	CBA:AMADEUS P/P 16FT, Part Number 34467 or Equal
5011B	PWA AMADEUS, Part Number 44384 or Equal
5011C	ASM: RS232 PATCH PAN, Part Number 44407 or Equal
	Spares for Item 6015 as Follows:
5015A	PWA SBS-16 CONTROLLER, Part Number 44450 or Equal
5015B	CMF ASYNC PATCH PANEL, Part Number 44568 or Equal
	Spares for Item 6016 as Follows:
5016A	ASM P/S I/O 115V, Part Number 52730 or Equal

ITEM	DESCRIPTION
	Spares for Item 6029 as Follows:
5029D	CLIP 4, Part Number 57080 or Equal
5029E	BOB, Part Number 57090 or Equal
5029F	LIM RS232, Part Number 57120 or Equal
5029G	BOB LIM, Part Number 57140 or Equal
5029H	CIU, Part Number 57160 or Equal
5029I	LIM, C/L, Part Number 57240 or Equal
5029J	POWER SUPPLY, Part Number 59427 or Equal
5029K	LIU, Part Number 43875 or Equal
	Spares for Item 6029B as Follows:
5029L	CLIP 1, Part Number 57070 or Equal
	Spares of Item 6029C

Software

5030A	Tandem "Measure" Software Package, Product Identification 9086P or Equal
5030B	Tandem "Measure" Software Package, Product Identification 9086PD or Equal
5032A	Tandem 9071 "VIEWSYS" Software, Product Identification 9077TP or Equal
5032B	Tandem 9071 "VIEWSYS" Software, Product Identification 9077TPD or Equal
5033A	Tandem 6100 ADCCP Software, Product Identification 9077TP or Equal
5033B	Tandem 6100 ADCCP Software, Product Identification 9077TPD or Equal
5034A	Tandem ATP6100 Software, Product Identification 9075TP or Equal
5034B	Tandem ATP6100 Software, Product Identification 9075TPD or Equal

Support and Documentation

5088	Data
5089	Program Reviews
5090	Integrated Logistics Support
5091	Manuals and Documentation

ITEM	DESCRIPTION
Optional Training, Services and Documentation	
5092	Hardware Maintenance Training
5093	Software Maintenance Training
5094	Maintenance Training Documentation
Hardware	
6001	Tandem NonStop TXP with 8MB Memory, Product Identification 1435 or Equal
6002	Additional 2MB Memory for Tandem NonStop II, Product Identification 2422 or Equal
6003	O.S.P. Upgrade (NS II to TXP), Product Identification 1G or Equal, for Tandem Operations and Service Processor (Shipped Prior to 10/1/83)
6004	O.S.P. Upgrade (NS II to TXP), Product Identification 1H or Equal, for Tandem Operations and Service Processor (Shipped on 10/1/83 or Later)
6005	Tandem XL8 Disk Drive, Product Identification 4130 or Equal
6006	Tandem Disk Controller (XL4, XL8), Product Identification 3108-1 or Equal
6007	Tandem Disk Controller (XL4, XL8), Product Identification 3108-2 or Equal
6008	Tandem Tape Drive, 125 IPS, Product Identification 5104-B or Equal
6009	Tandem Magnetic Tape Controller, Product Identification 3207 or Equal
6010	Tandem System Cabinet, Product Identification 7123 or Equal
6011	Tandem Communications Controller, Product Identification 6105-1 or Equal
6012	Tandem Synchronous Patch Panel, Product Identification 6165-1 or Equal
6013	Tandem Asynchronous Communications Controller Extension Board, Product Identification 6304-2 or Equal
6014	Tandem Asynchronous Patch Panel, Product Identification 7501 or Equal
6015	Tandem Asynchronous Communications Controller, Product Identification 6106 or Equal
6016	Tandem Input/Output (I/O) Only Power Module, Product Identification 7301 or Equal

ITEM	DESCRIPTION
6017	Tandem Disk Drives (XL4), Product Identification 4134 or Equal
6018	Tandem Add-in Disk Pair, Product Identification 4131 or Equal
6018A	Tandem Control Cable for Add-in Disk Pair, Product Identification 42C-50 or Equal
6018B	Tandem Control Cable for Add-in Disk Pair, Product Identification 42D-50 or Equal
6018C	Tandem Terminator for Add-in Disk Pair, Product Identification 42T-2 or Equal
6019	Tandem High-Performance 200 IPS Tape Subsystem, Product Identification 5130-1 or Equal
6020	Tandem High-Performance Dot-matrix Line Printer, Product Identification 5518 or Equal
6021	Tandem Roman-8 Font, Product Identification 55M004 or Equal
6022	Tandem Draft Quality 7-bit USASCII Character Set, Product Identification 55M011 or Equal
6023	Tandem Roman-8 Compressed Character Font Option, Product Identification 55M012 or Equal
6024	Tandem Remote Printer Interface System Local Unit, Product Identification 55FX or Equal
6025	Tandem Remote Printer Interface System Remote Unit, Product Identification 55FR or Equal
6026	Tandem Fiber-Optic Extension, Product Identification 6700 or Equal
6026A	Tandem Fiber-Optic Connector Kit, Product Identification 7619 or Equal
6027	Tandem High-Speed Serial Matrix Printer, Product Identification 5520 or Equal
6027A	Tandem Pedestal/Paper Receptacle, Product Identification 7203 or Equal
6028	Tandem Expansion Cabinet, Product Identification 7107 or Equal
6029	Tandem Communications Subsystem, Product Identification 6101E or Equal
6029A	Tandem Communications Subsystem Add-on, Product Identification 6102E or Equal
6029B	Tandem Line Interface Unit RS-232, Product Identification 6120-1 or Equal
6029C	Tandem Line Interface Unit (LIU-4), or Product Identification 6140-1 or Equal

APPENDIX 2. MPS EQUIPMENT REMOVAL LIST

The following equipment will be removed from each indicated site. The contractor will be responsible for packaging the removed equipment and preparing it for shipment. Each individual site (S) will be responsible for equipment shipment from the site to the FAA Depot, while the MPS contractor (C) will assume responsibility for shipment of equipment to other MPS sites.

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Kansas City ARTCC (ZKC) MPS SITE # 1				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	2	S	Kansas City (ZKC) - Development System
NS II .5 Mb Memory Boards		2	S	FAA Depot
I/O Power Supply Units		3	S	Kansas City (ZKC) - Development System
System Cabinet		1	S	Kansas City (ZKC) - Development System
Disc Drives (Including Disc Packs and Cables)				Kansas City (ZKC) - Development System
Ampex 300 Mb - removable	4104	2	S	
CDC 80 Mb Cab. Mount	4105	2	S	
Disc Patch Panel	7504	1	S	Kansas City (ZKC) - Development System
Disc Controller Board Pairs	3106A	2	S	Kansas City (ZKC) - Development System

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Los Angeles ARTCC (ZLA) MPS SITE # 2				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Edwards AFB (WJF) MPS SITE # 37
NS II .5 Mb Memory Boards		2	C	Edwards AFB (WJF) MPS SITE # 37
Disc Drives (Including Disc Packs and Cables)				
Ampex 300 Mb - removable	4104	2	S	FAA Depot
CDC 80 Mb Cab. Mount	4105	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Anchorage ARTCC (ZAN) MPS SITE # 3				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	FAA Technical Center - ASM-160 MPS SITE # 26
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables)				
Ampex 300 Mb - removable	4104	2	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Chicago ARTCC (ZAU) MPS SITE # 4				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Detroit AFS (DTW) MPS SITE # 33
NS II .5 Mb Memory Boards		2	C	Detroit AFS (DTW) MPS SITE # 33
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Atlanta ARTCC (ZTL) MPS SITE # 5				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	St. Louis AFS (STL) MPS SITE # 34

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Ft. Worth ARTCC (ZFW) MPS SITE # 6				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Dallas/Ft. Worth AFS (DFW) MPS SITE # 29
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	Mike Monroney Aeronautical Center - ASM-150 MPS Site # 28

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
San Juan ARTCC (ZSU) MPS SITE # 7				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Norfolk AFS (ORF) MPS SITE # 31
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Houston ARTCC (ZHU) MPS SITE # 8				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Dallas/Ft. Worth AFS (DFW) MPS SITE # 29
NS II .5 Mb Memory Boards		2	C	Dallas/Ft. Worth AFS (DFW) MPS SITE # 29
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Jacksonville ARTCC (ZJK) **MPS SITE # 9**				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Windsor Locks AFS (BDL) MPS SITE # 32
NS II .5 Mb Memory Boards		2	C	Windsor Locks AFS (BDL) MPS SITE # 32
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Albuquerque ARTCC (ZAB) **MPS SITE # 10**				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Denver AFS (DEN) MPS SITE # 36

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
NS II .5 Mb Memory Boards		2	C	Mike Monroney Aeronautical Center - ASM-150 MPS SITE # 28
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Miami ARTCC (ZMA) MPS SITE # 11				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Windsor Locks AFS (BDL) MPS SITE # 32
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Oakland ARTCC (ZOA) MPS SITE # 12				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Edwards AFB (WJF) MPS SITE # 37
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Memphis ARTCC (ZME) MPS SITE # 13				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Memphis AFS (MEM) MPS SITE # 30
NS II .5 Mb Memory Boards		2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Seattle ARTCC (ZSE) MPS SITE # 14				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Fairbanks AFS (FAI) MPS SITE # 38
NS II .5 Mb Memory Boards		2	C	Fairbanks AFS (FAI) MPS SITE # 38
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Honolulu ARTCC (ZHN) MPS SITE # 15				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Mike Monroney Aeronautical Center, AAC-940 MPS SITE # 27
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Disc Controller Board Pairs	3106	2	S	FAA Depot
Salt Lake City ARTCC (ZLC) MPS SITE # 16				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Wichita AFS (ICT) MPS SITE # 35
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Denver ARTCC (ZDV) MPS SITE # 17				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Denver AFS (DEN) MPS SITE # 36
NS II .5 Mb Memory Boards		2	C	Denver AFS (DEN) MPS SITE # 36

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
Minneapolis ARTCC (ZMP) MPS SITE # 18				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Fairbanks AFS (FAI) MPS SITE # 38
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Indianapolis ARTCC (ZID) MPS SITE # 19				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Wichita AFS (ICT) MPS SITE # 35
NS II .5 Mb Memory Boards		2	C	Wichita AFS (ICT) MPS SITE # 35
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Cleveland ARTCC (ZOB) MPS SITE # 20				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Detroit AFS (DTW) MPS SITE # 33
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Washington ARTCC (ZDC) MPS SITE # 21				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Norfolk AFS (ORF) MPS SITE # 31
NS II .5 Mb Memory Boards		2	C	Norfolk AFS (ORF) MPS SITE # 31
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
New York ARTCC (ZNY) MPS SITE # 22				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	Memphis AFS (MEM) MPS SITE # 30
NS II .5 Mb Memory Boards		2	C	Memphis AFS (MEM) MPS SITE # 30
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Boston ARTCC (ZBW) MPS SITE # 23				
NS II Computer Subsystem 3 Processor Boards 3 0.5 Mb Memory Boards 1 2.0 Mb Memory Board 1 Ribbon Cable (4 Slot) 1 Power Supply and Battery Backup	1420	1	C	St. Louis AFS (STL) MPS SITE # 34
NS II .5 Mb Memory Boards		2	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Patch Panel Cabinet	7105	1	S	FAA Depot
FAA Headquarters, ASM-220 MPS SITE # 24				
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable 264 Mb Winchester pair	4104 4114/15	4 1	S S	FAA Depot FAA Depot
Disc Patch Panel	7504	2	S	FAA Depot
Disc Controller Board Pairs	3106 3107	2 4	S S	FAA Depot FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
FAA Technical Center, ACT-110 MPS SITE # 25				
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Tape Controller	3202	1	S	FAA Depot
FAA Technical Center, ASM-160 MPS SITE # 26				
NS II .5 Mb Memory Boards		4	S	FAA Depot
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	2	S	FAA Depot
CDC 80 Mb Cab. Mount	4105	4	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Mike Monroney Aeronautical Center, AAC-940 MPS SITE # 27				
NS II .5 Mb Memory Boards		2	C	Mike Monroney Aeronautical Center - ASM-150 MPS SITE # 28
NS II .5 Mb Memory Boards		1	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
NS II .5 Mb Memory Boards		1	S	FAA Depot (at a later date)
NS II 2.0 Mb Memory Board		1	S	FAA Depot (at a later date)
Disc Drives (Including Disc Packs and Cables) Ampex 300 Mb - removable	4104	4	S	(To be decided at a later date)
Disc Patch Panel	7504	1	S	(To be decided at a later date)
Disc Controller Board Pairs	3106	2	S	(To be decided at a later date)
Mike Monroney Aeronautical Center, ASM-150 MPS SITE # 28				
Disc Drives 264 Mb Winchester Pair	4114/15	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Dallas/Ft. Worth AFS (DFW) MPS SITE # 29				
Disc Drives 128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Memphis AFS (MEM)				
MPS SITE # 30				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Norfolk AFS (ORF)				
MPS SITE # 31				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Windsor Locks AFS (BDL)				
MPS SITE # 32				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Detroit AFS (DTW)				
MPS SITE # 33				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
St. Louis AFS (STL)				
MPS SITE # 34				
NS II .5 Mb Memory Boards		6	S	FAA Depot
Disc Drives				
128 Mb Winchester Pair	4110/11	2	S	FAA Depot
CDC 80 Mb Winchester	4109	2	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
	3106A	2	S	FAA Depot
Wichita AFS (ICT)				
MPS SITE # 35				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot

MPS Site/ Equipment	Tandem Product Id	Qty	Resp	Destination
Denver AFS (DEN) MPS SITE # 36				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
CDC 80 Mb Drawer Mount	4106	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Edwards AFB (WJF) MPS SITE # 37				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot
Fairbanks AFS (FAI) MPS SITE # 38				
Disc Drives				
128 Mb Winchester Pair	4110/11	1	S	FAA Depot
264 Mb Winchester Pair	4114/15	1	S	FAA Depot
Disc Patch Panel	7504	1	S	FAA Depot
Disc Controller Board Pairs	3106	2	S	FAA Depot

APPENDIX 3. MPS FLOOR LAYOUT BEFORE AND AFTER MPS ENHANCEMENT

This appendix contains the floor layout for each MPS site before and after the MPS enhancement. Each "before" floor layout reflects information gathered during MPS site surveys conducted by ACT-110 from November through December 1987.

FIGURE 1-1. KANSAS CITY MPS SITE # 1 - BEFORE ENHANCEMENT

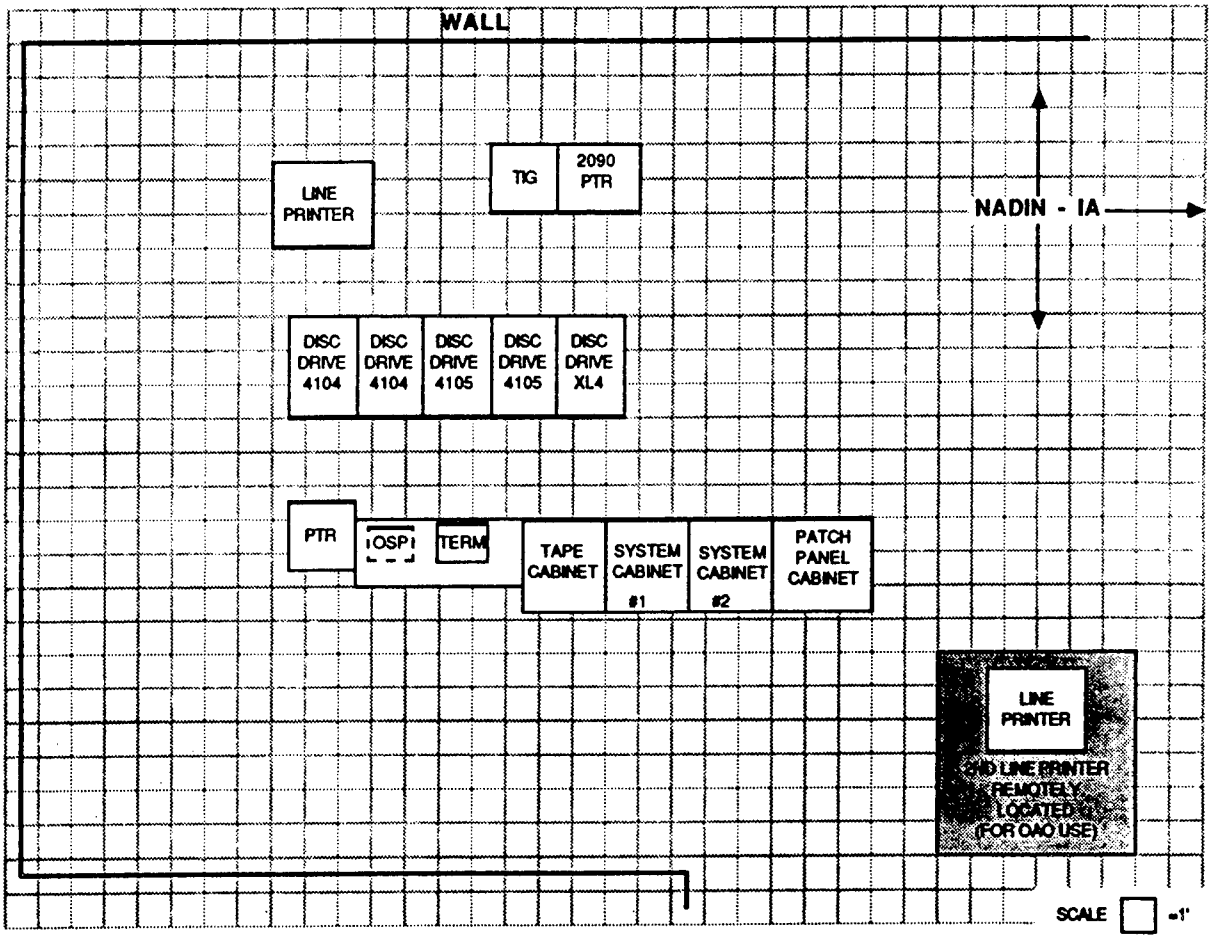


FIGURE 1-2. KANSAS CITY MPS SITE # 1 - AFTER ENHANCEMENT

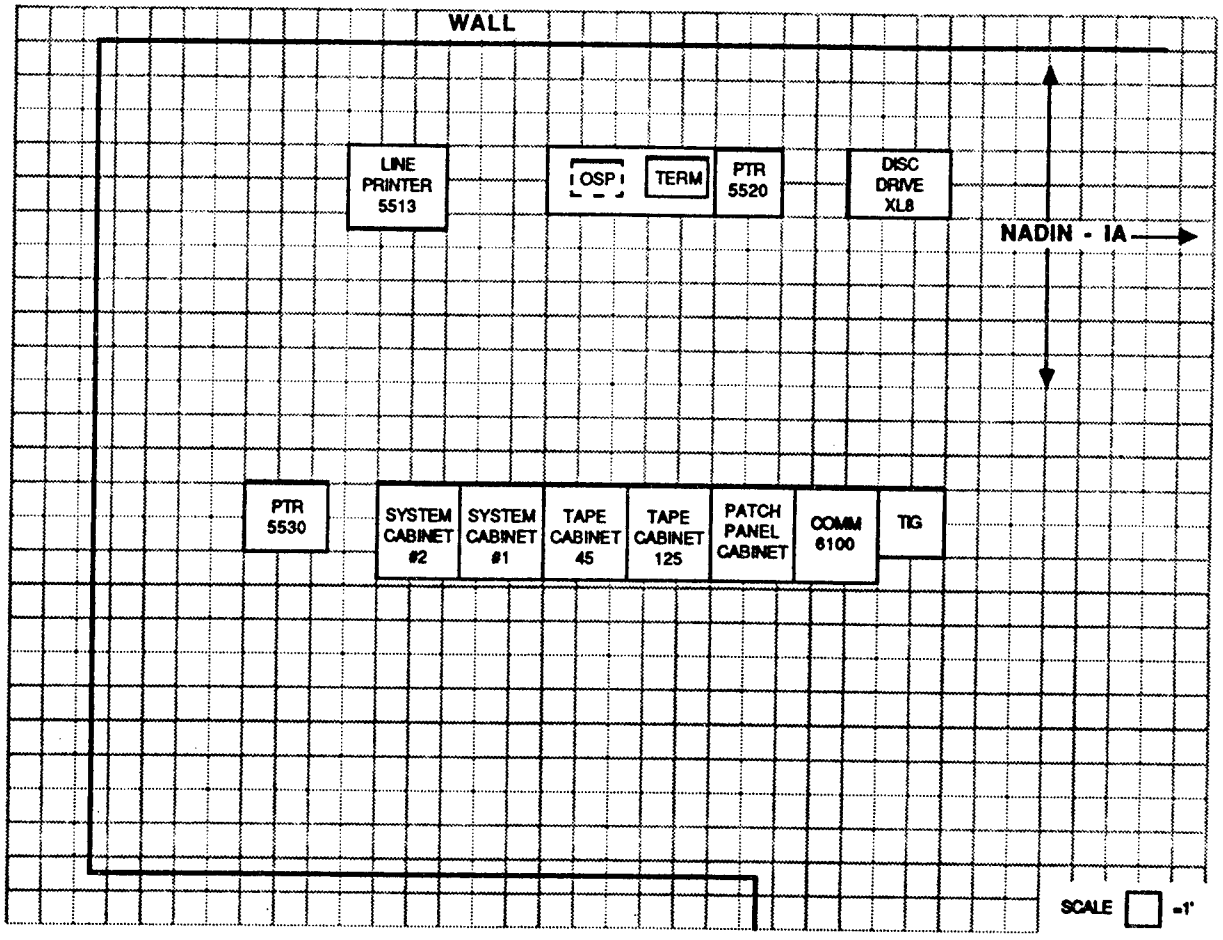


FIGURE 2-1. LOS ANGELES MPS SITE # 2 - BEFORE ENHANCEMENT

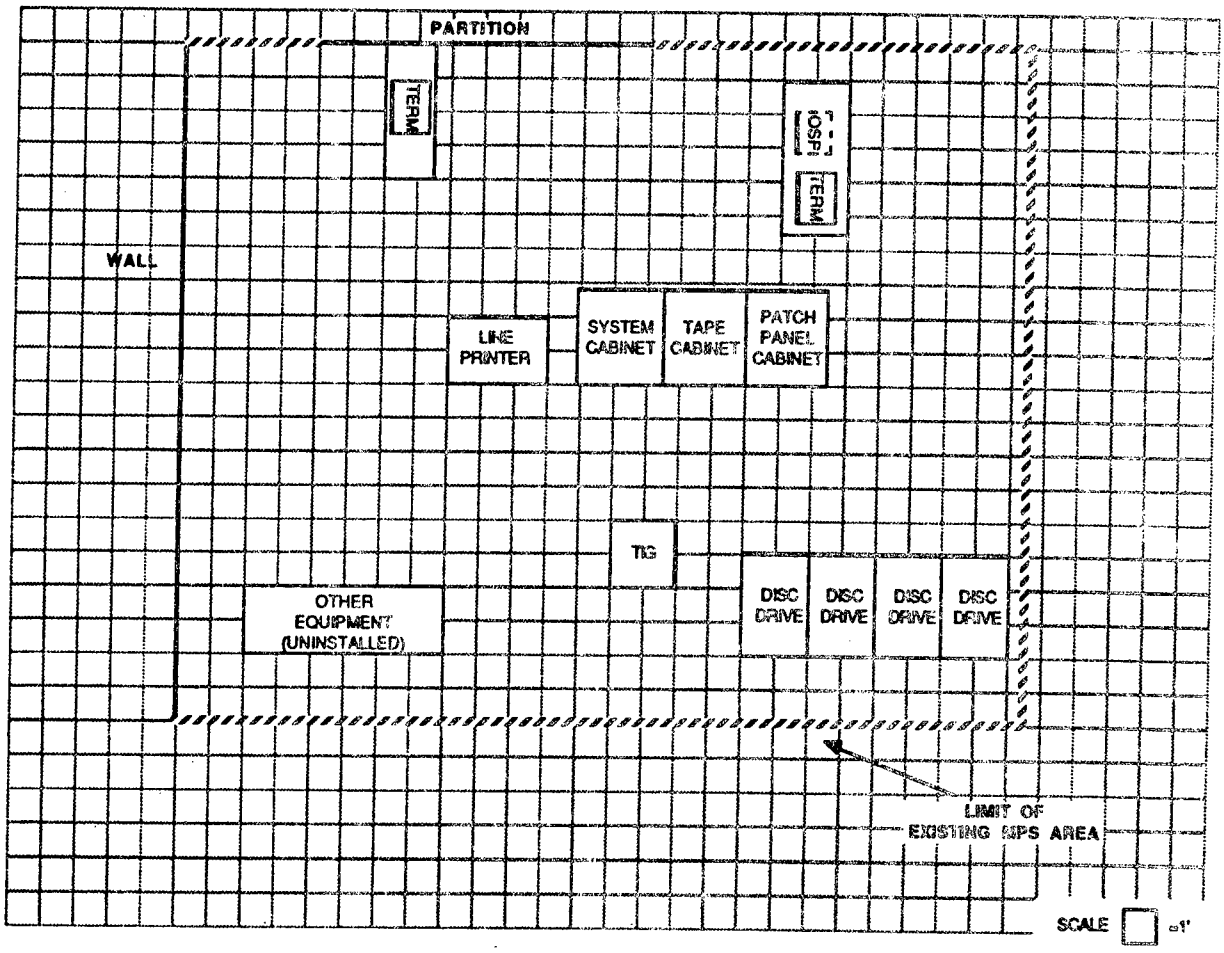


FIGURE 2-2. LOS ANGELES MPS SITE # 2 - AFTER ENHANCEMENT

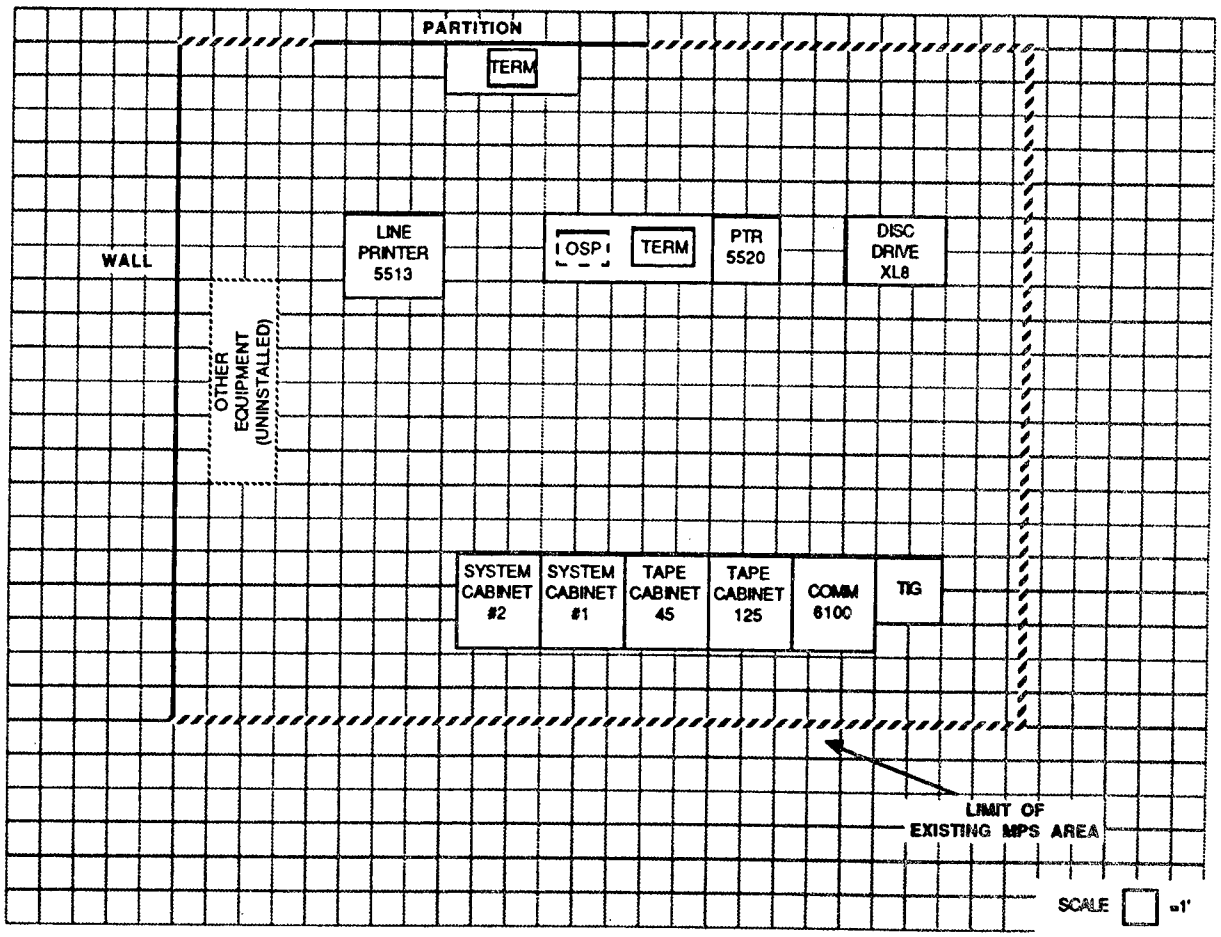


FIGURE 3-1. ANCHORAGE MPS SITE # 3 - BEFORE ENHANCEMENT

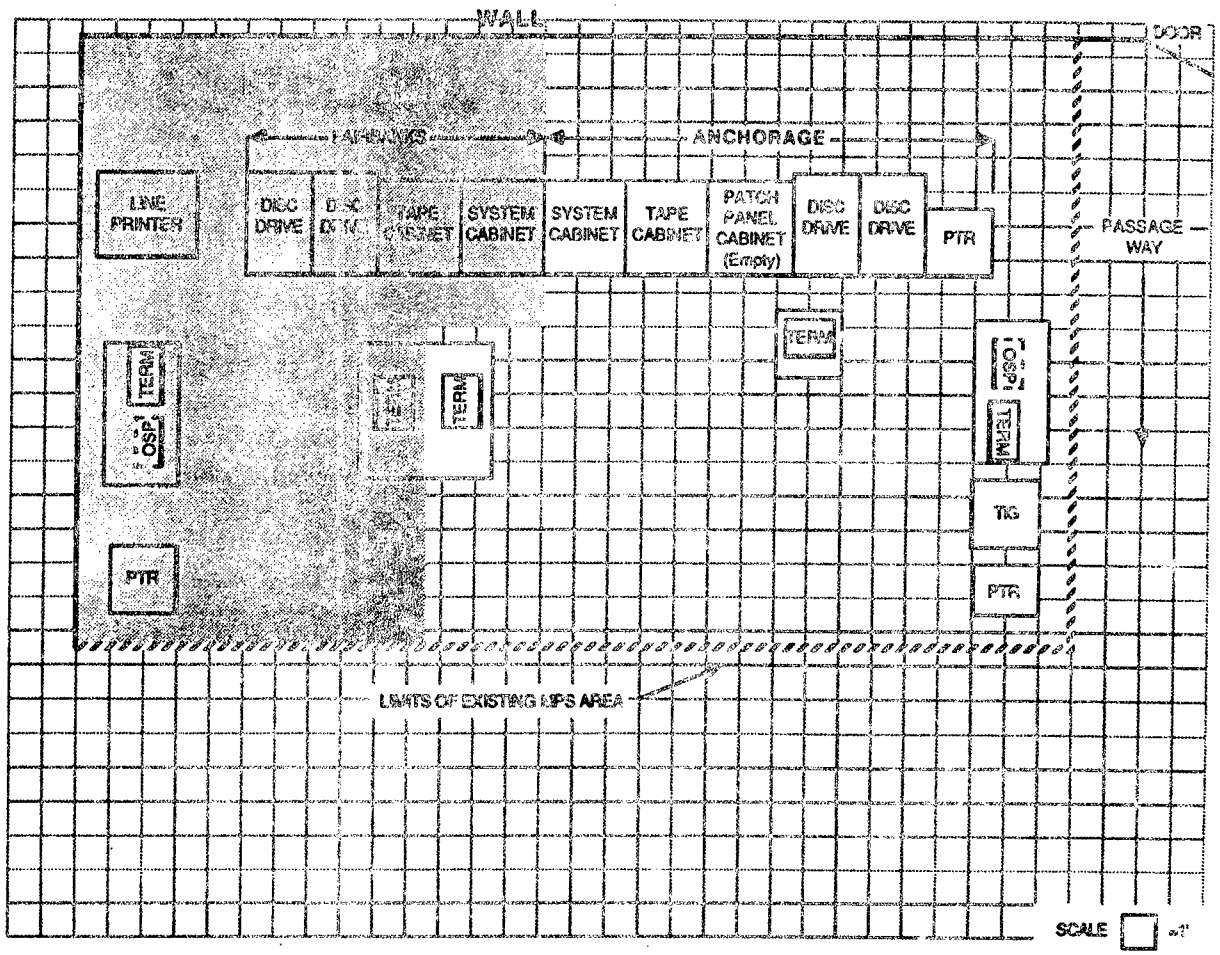


FIGURE 3-2. ANCHORAGE MPS SITE # 3 - AFTER ENHANCEMENT

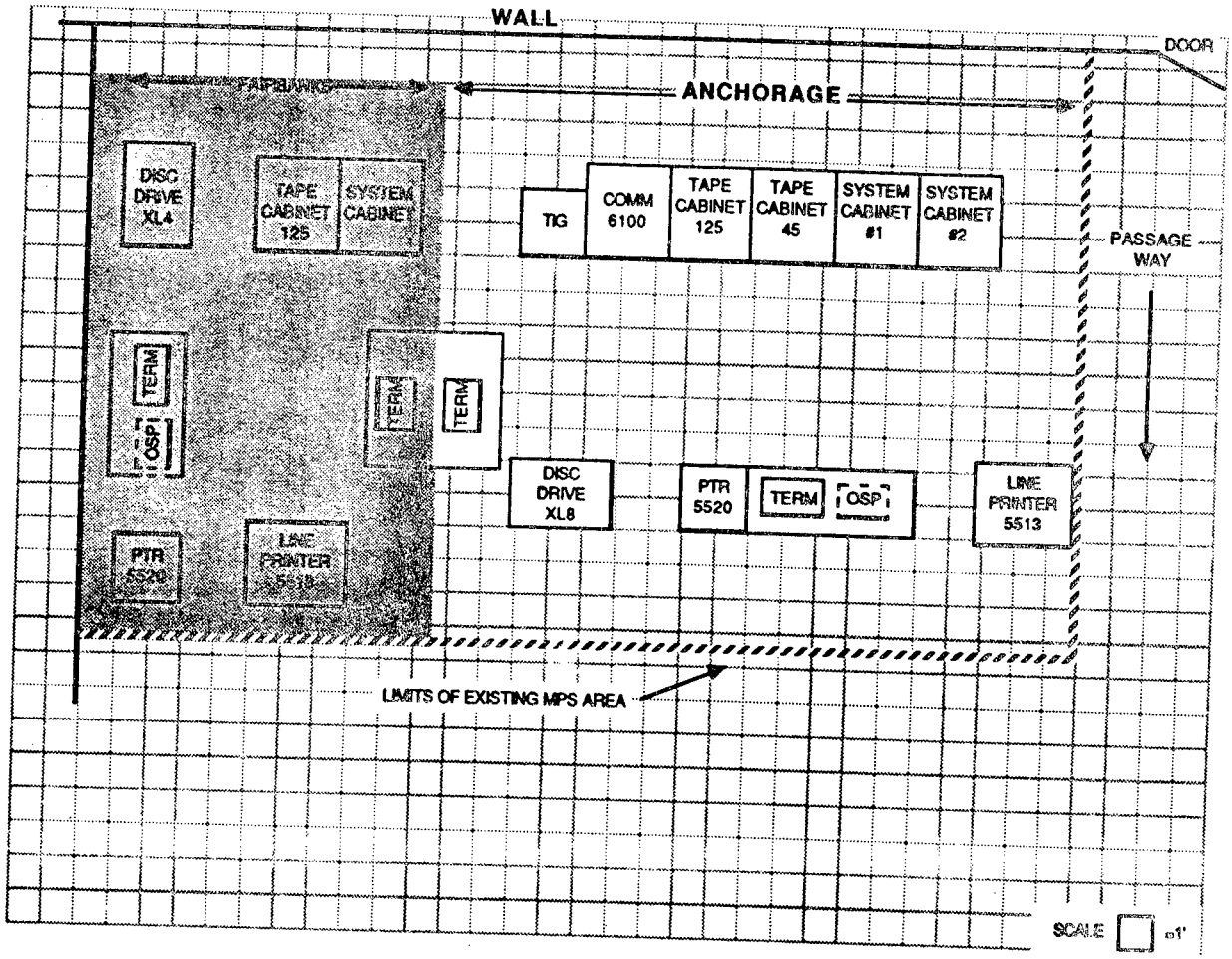


FIGURE 4-1. CHICAGO MPS SITE # 4 - BEFORE ENHANCEMENT

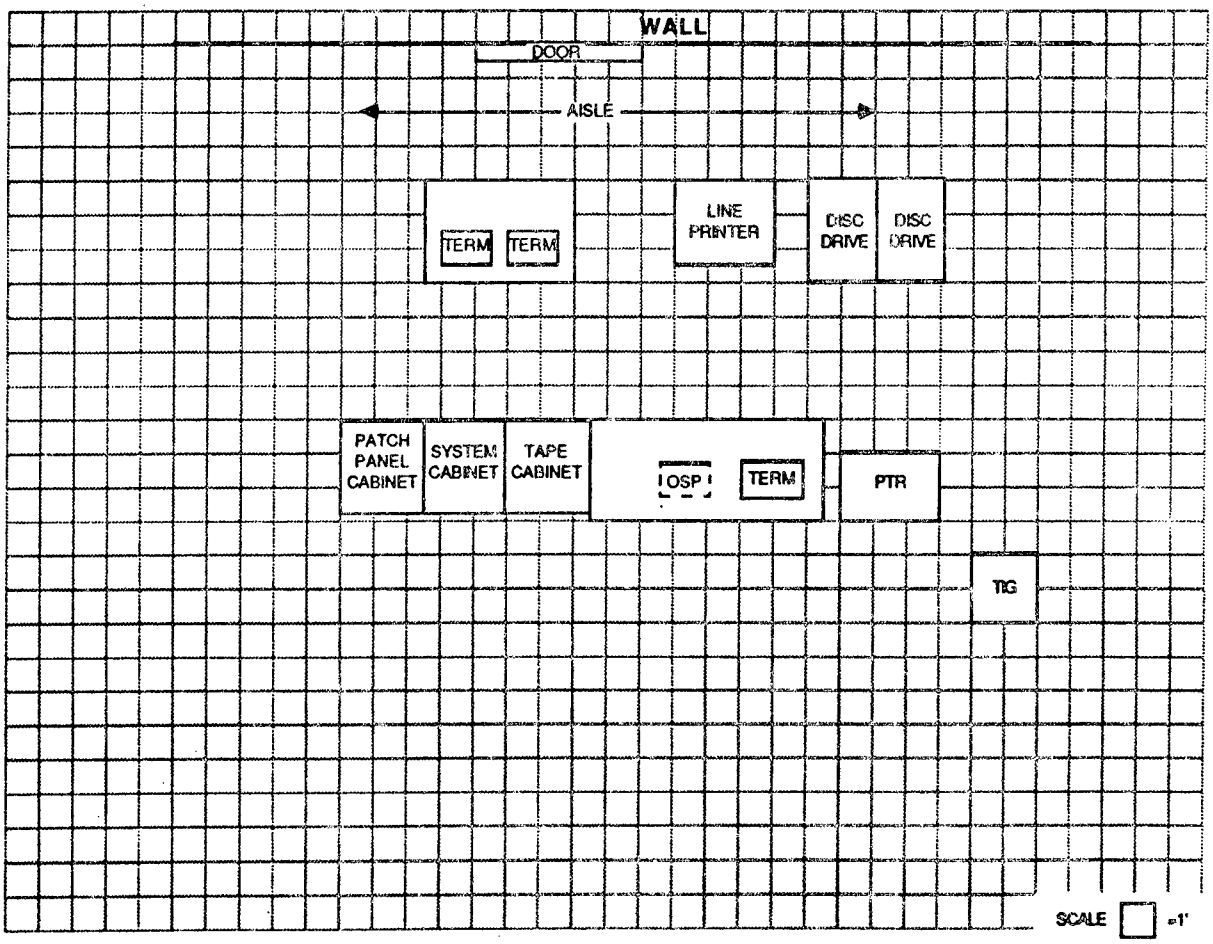


FIGURE 4-2. CHICAGO MPS SITE # 4 - AFTER ENHANCEMENT

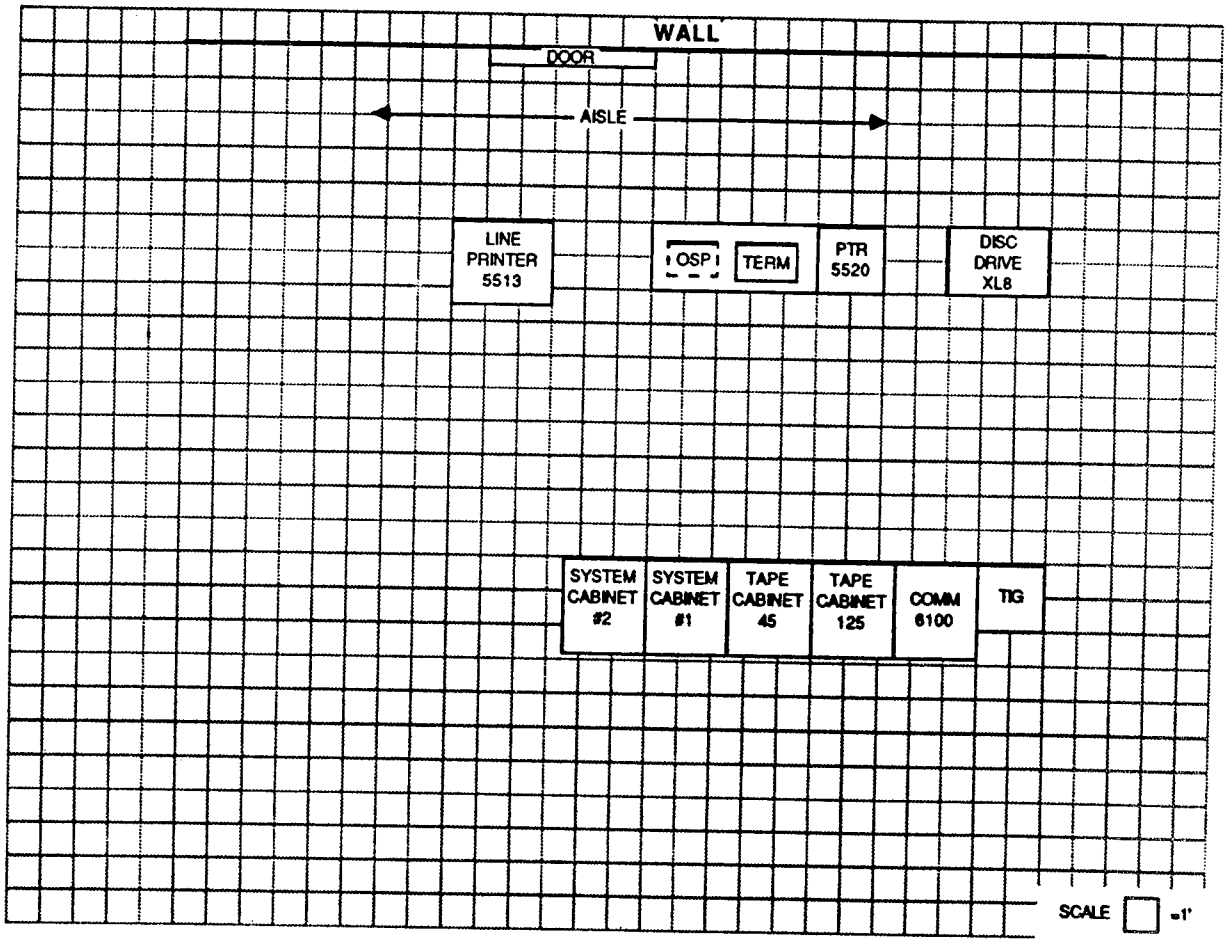


FIGURE 5-1. ATLANTA MPS SITE # 5 - BEFORE ENHANCEMENT

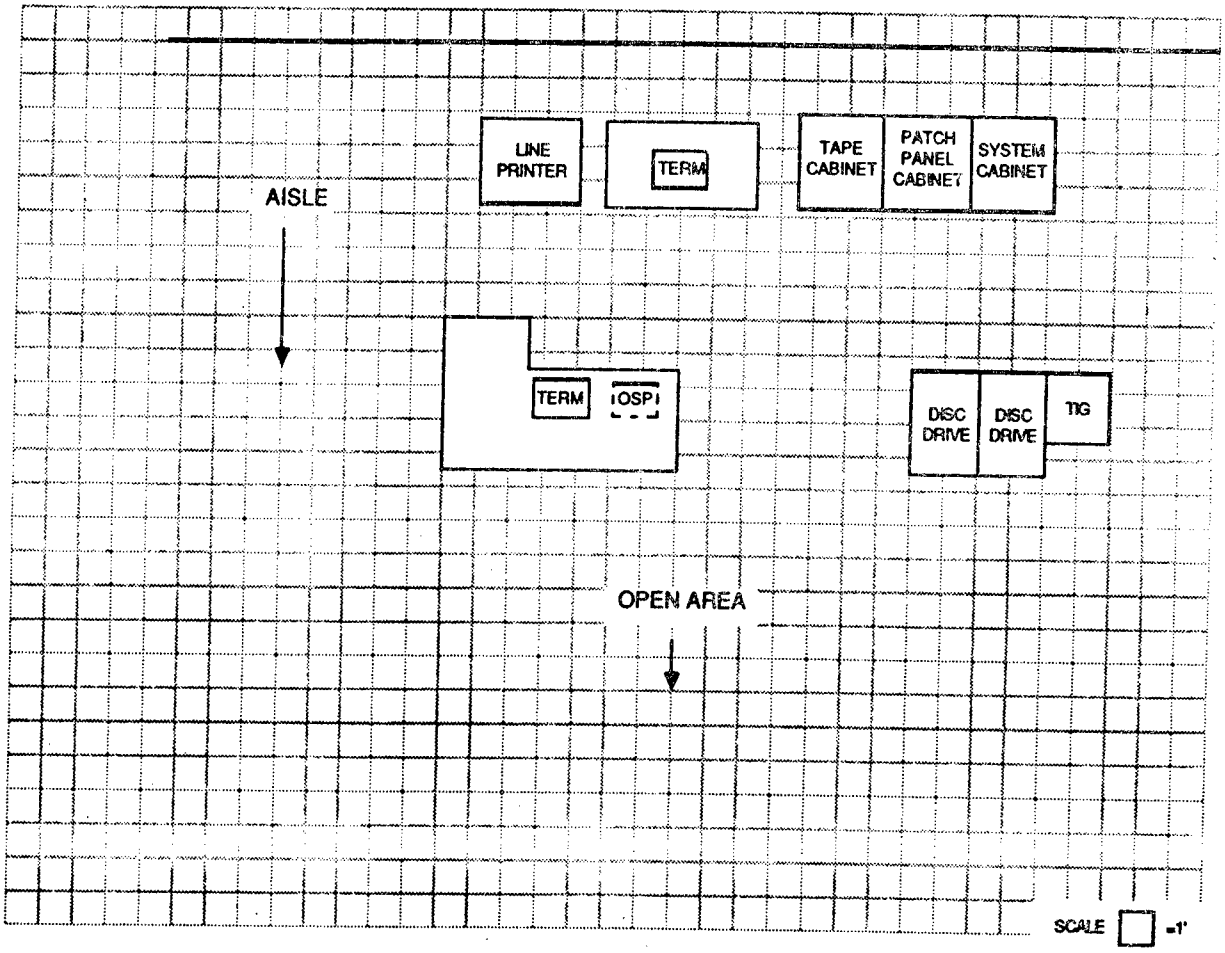


FIGURE 5-2. ATLANTA MPS SITE # 5 - AFTER ENHANCEMENT

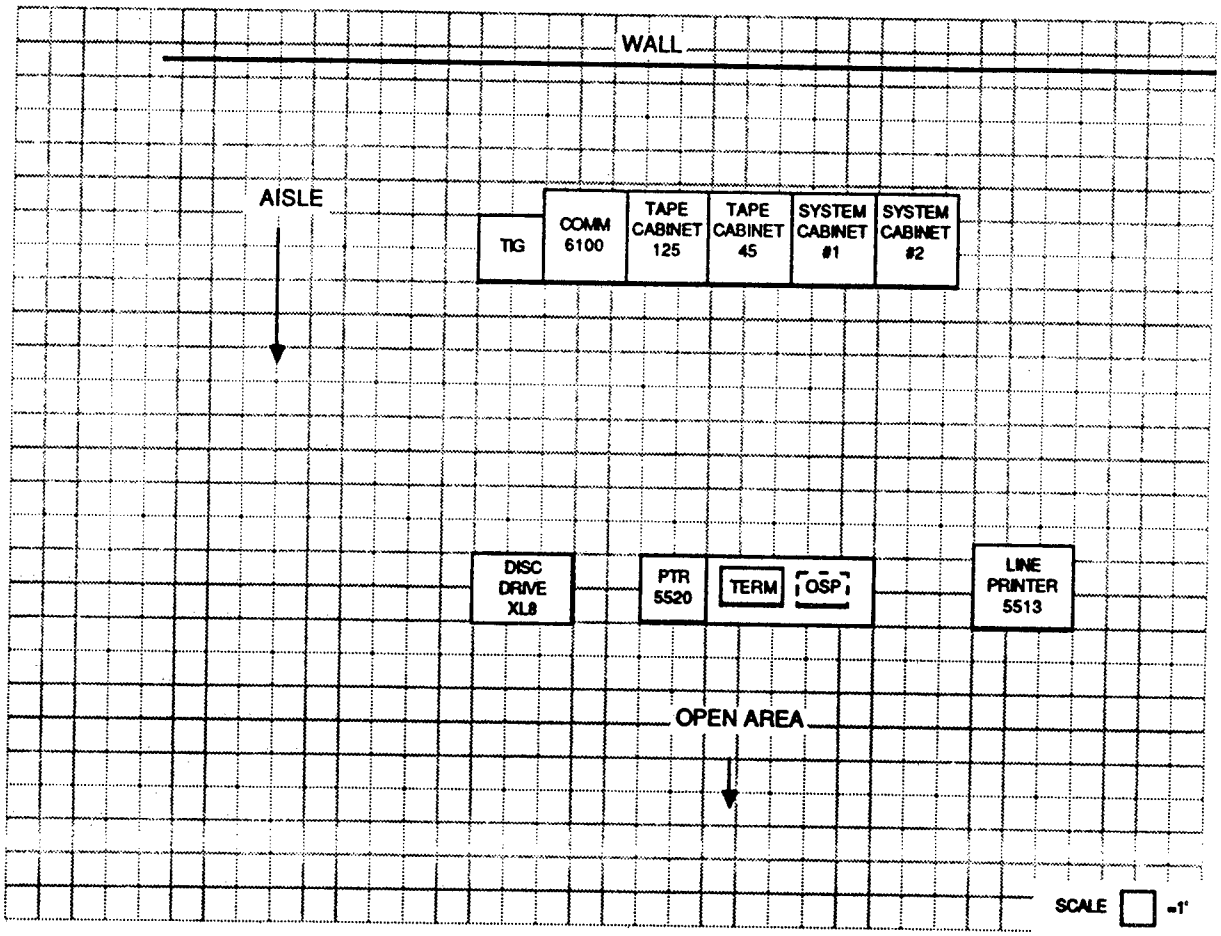


FIGURE 6-1. FT. WORTH MPS SITE # 6 - BEFORE ENHANCEMENT

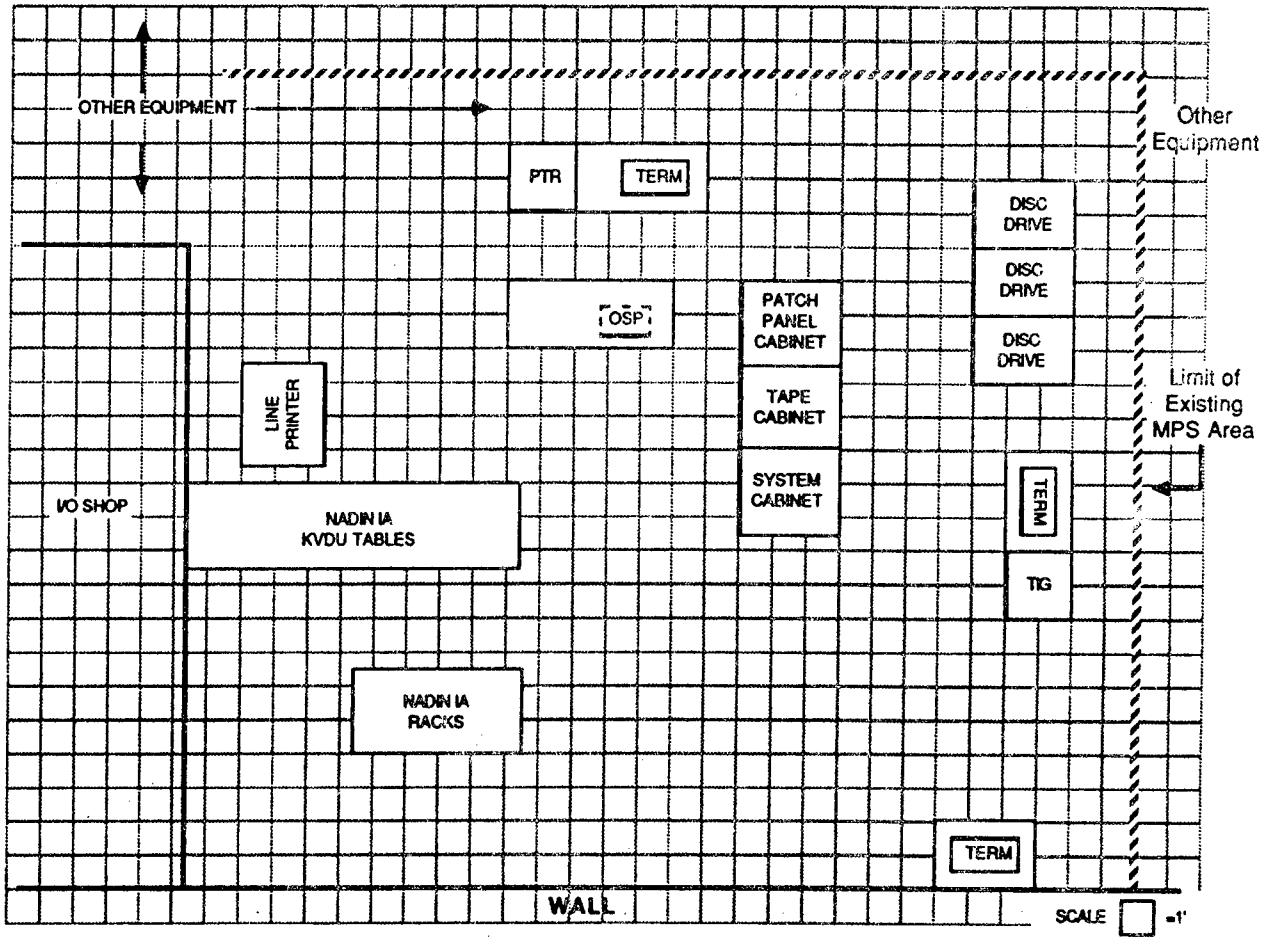


FIGURE 6-2. FT. WORTH MPS SITE # 6 - AFTER ENHANCEMENT

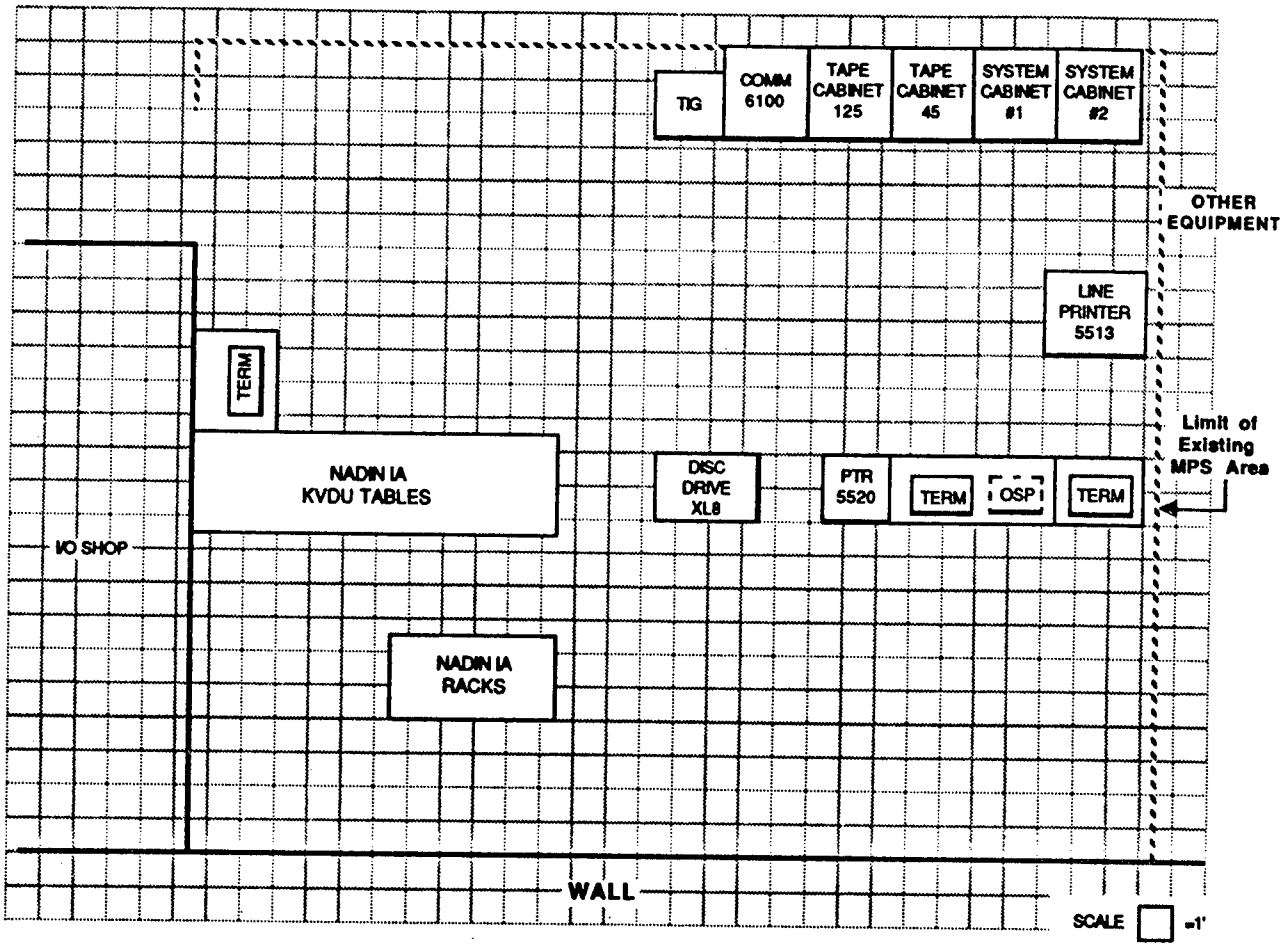


FIGURE 7-1. SAN JUAN MPS SITE # 7 - BEFORE ENHANCEMENT

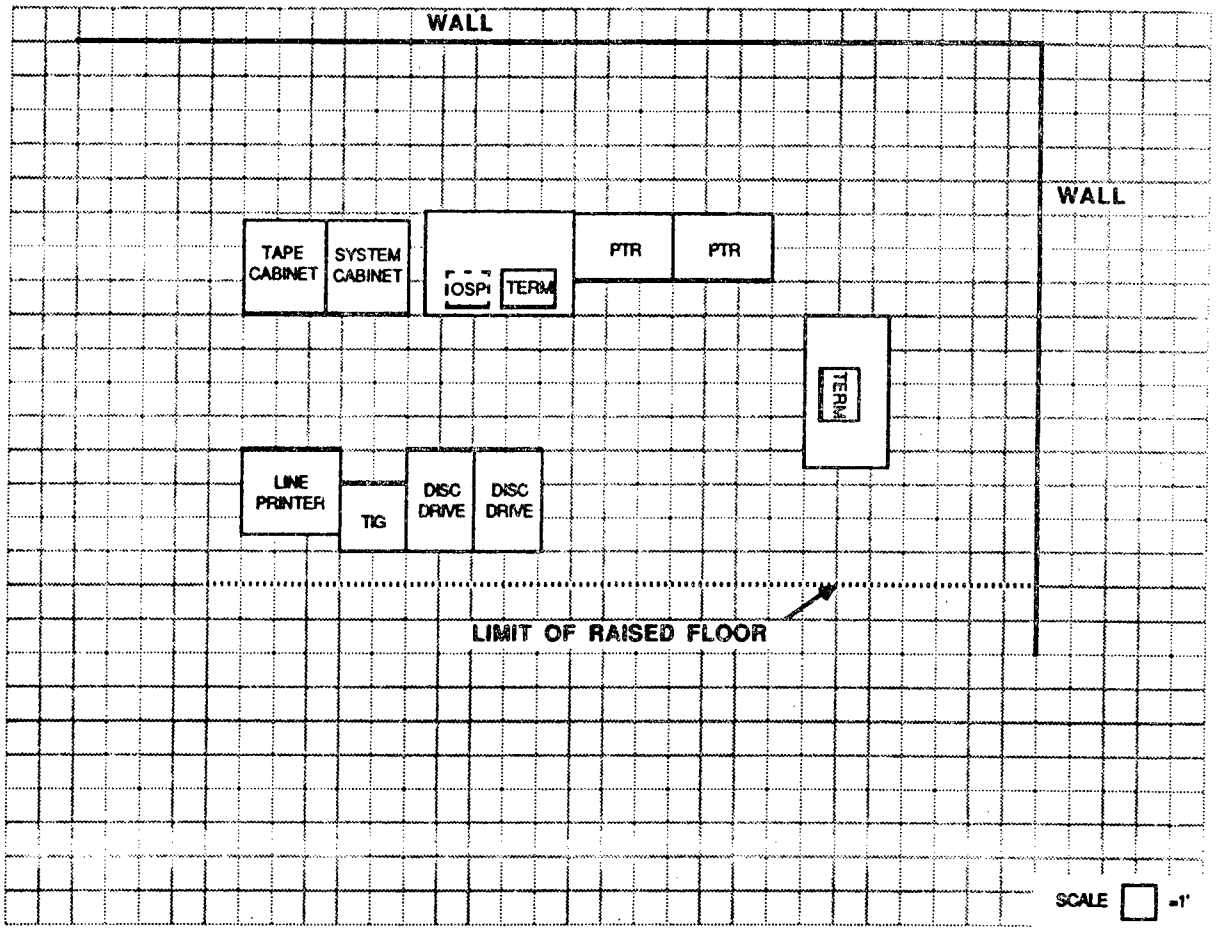


FIGURE 7-2. SAN JUAN MPS SITE # 7 - AFTER ENHANCEMENT

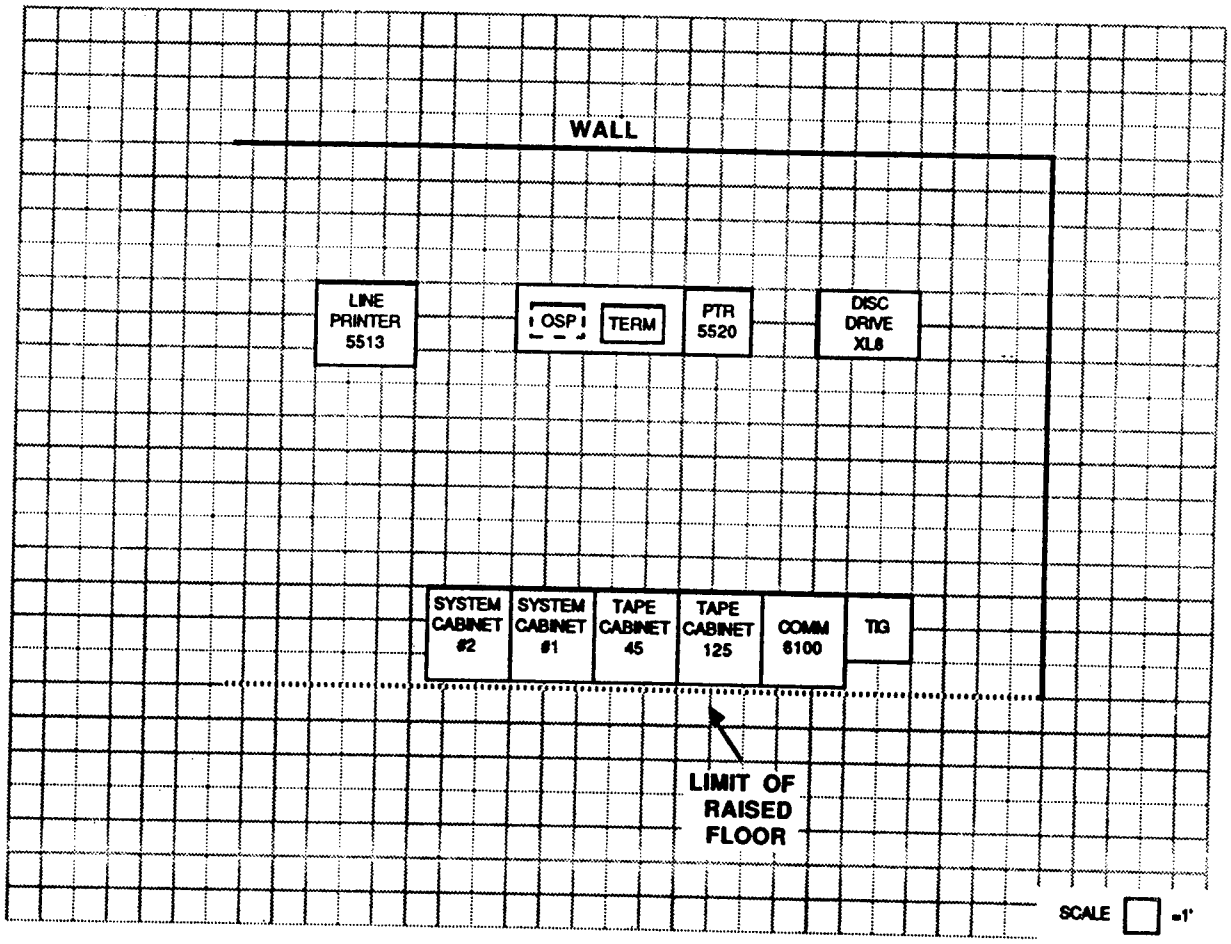


FIGURE 8-1. HOUSTON MPS SITE # 8 - BEFORE ENHANCEMENT

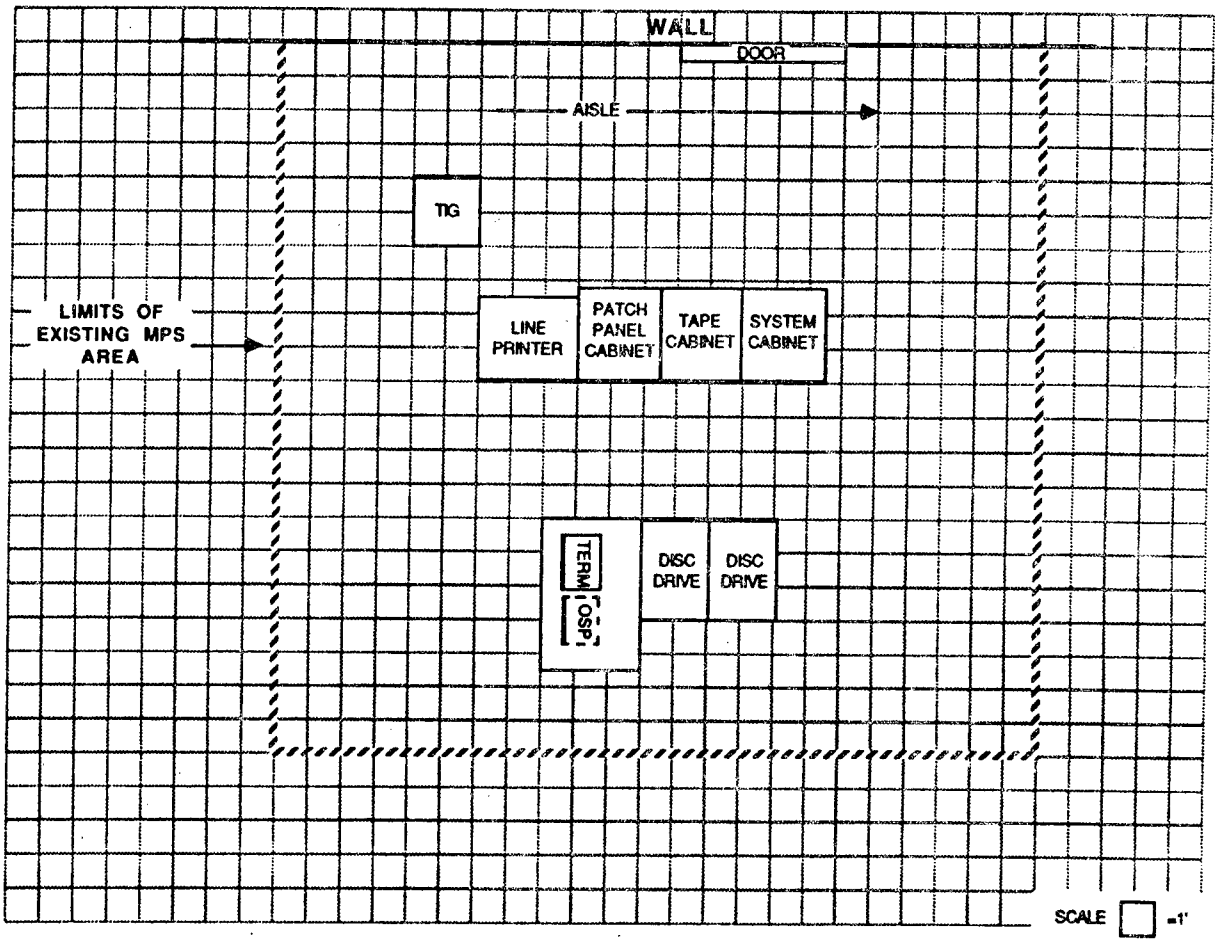


FIGURE 8-2. HOUSTON MPS SITE # 8 - AFTER ENHANCEMENT

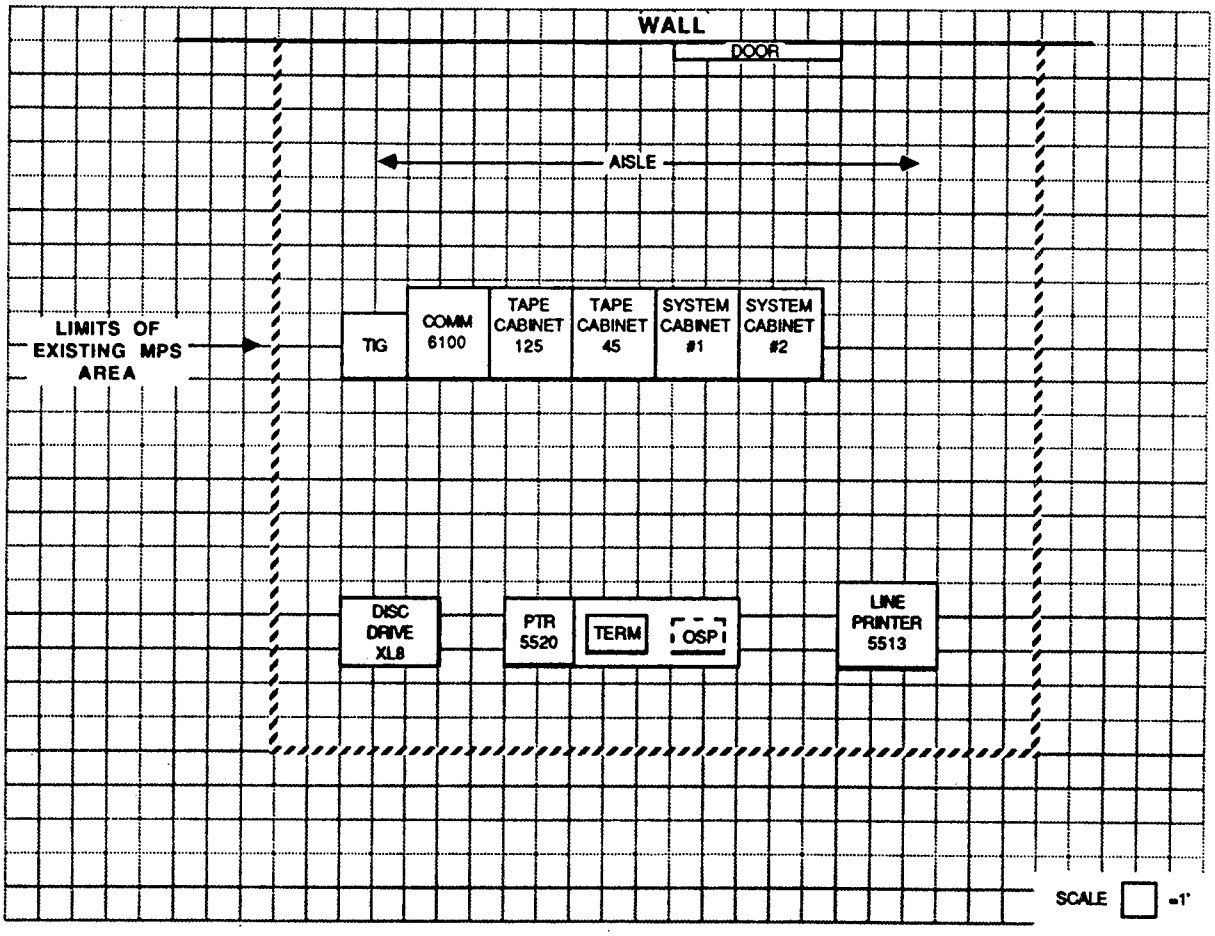


FIGURE 9-1. JACKSONVILLE MPS SITE # 9 - BEFORE ENHANCEMENT

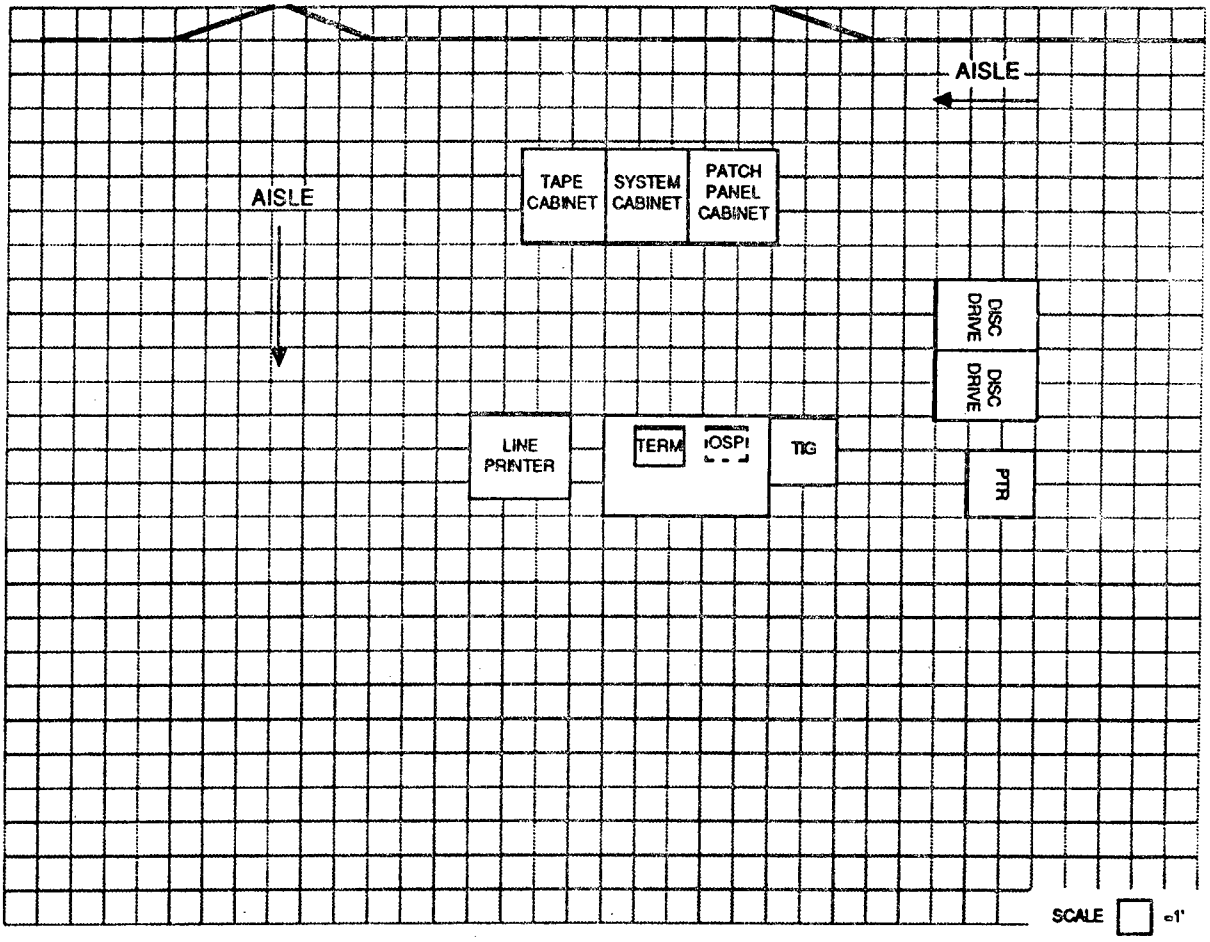


FIGURE 9-2. JACKSONVILLE MPS SITE # 9 - AFTER ENHANCEMENT

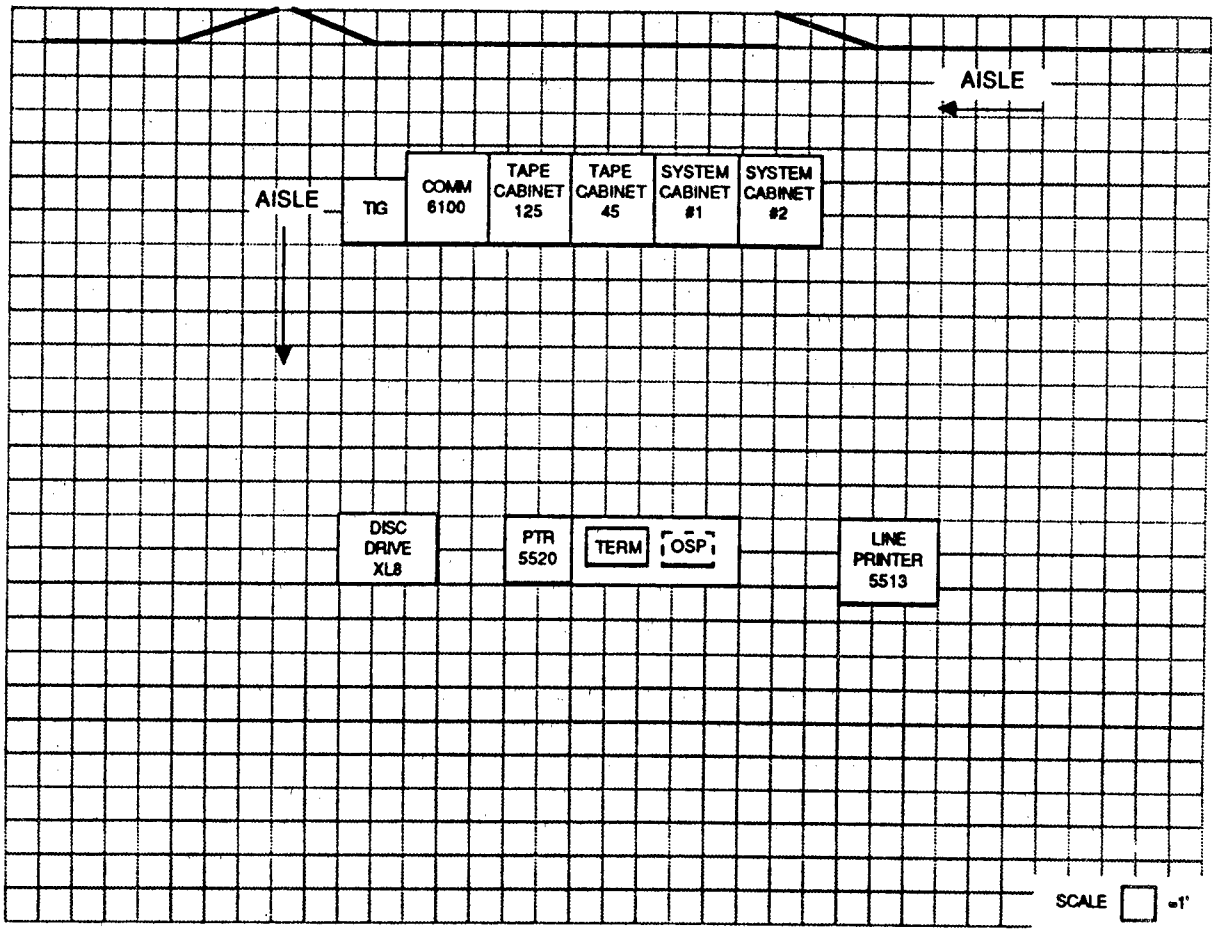


FIGURE 10-1. ALBUQUERQUE MPS SITE # 10 - BEFORE ENHANCEMENT

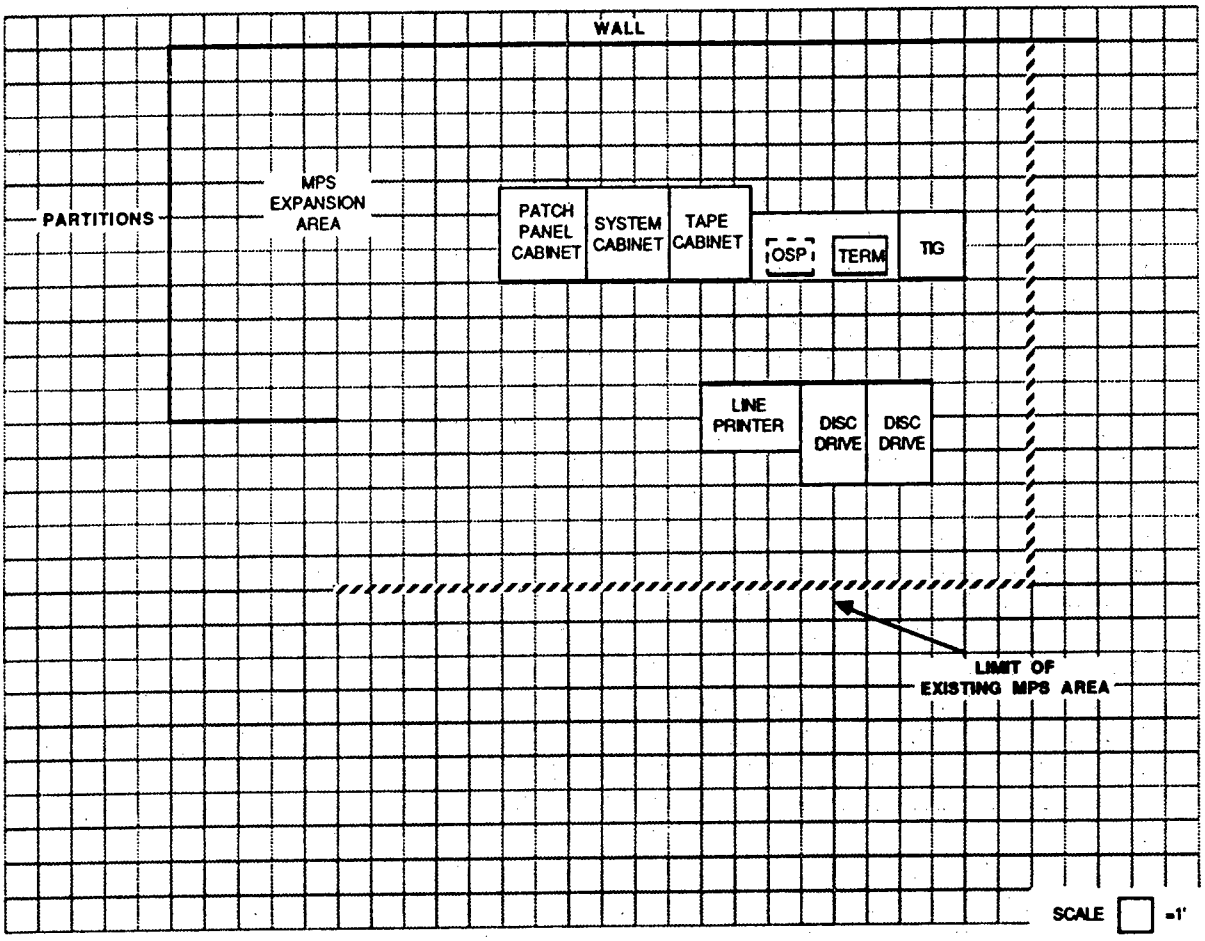


FIGURE 10-2. ALBUQUERQUE MPS SITE # 10 - AFTER ENHANCEMENT

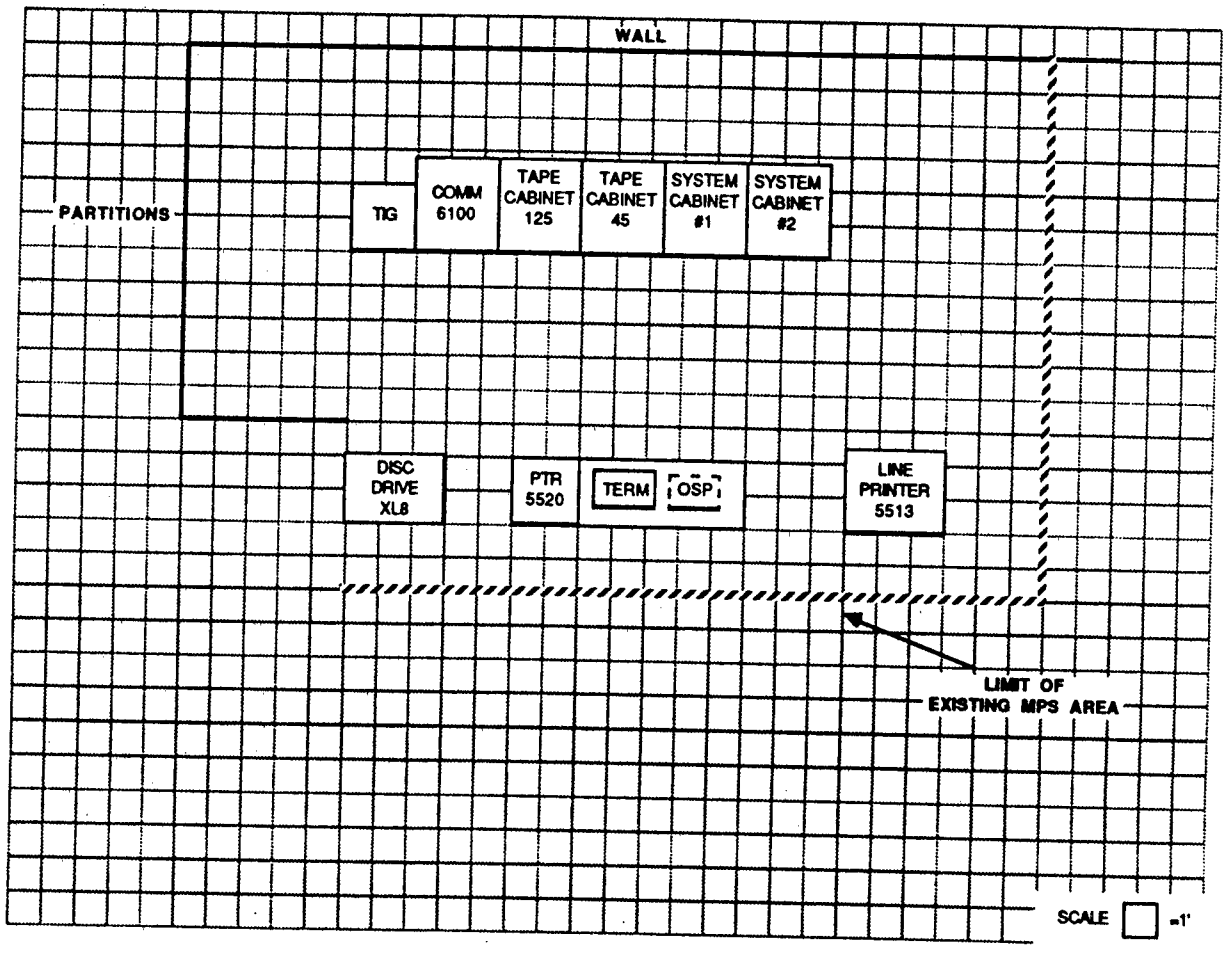


FIGURE 11-1. MIAMI MPS SITE # 11 - BEFORE ENHANCEMENT

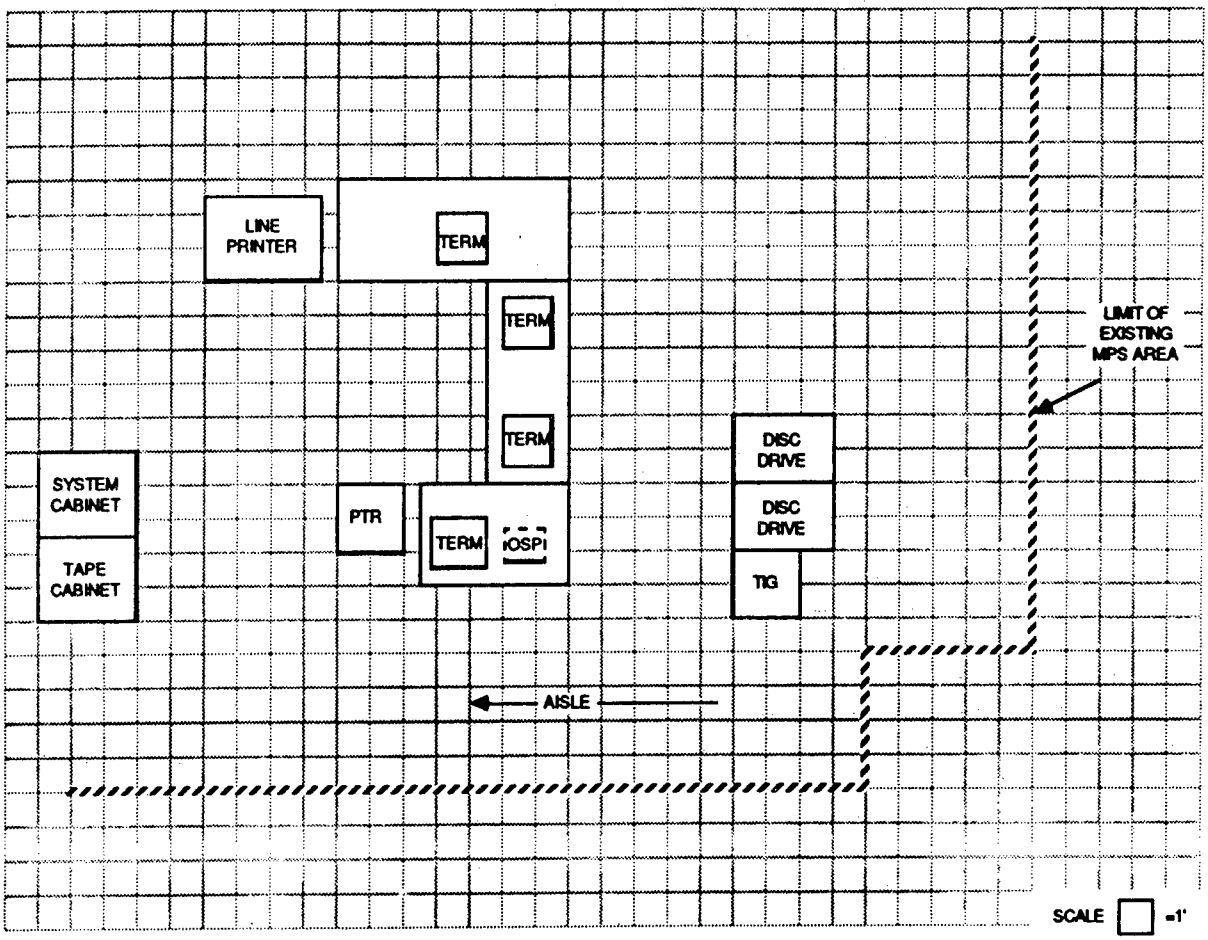


FIGURE 11-2. MIAMI MPS SITE # 11 - AFTER ENHANCEMENT

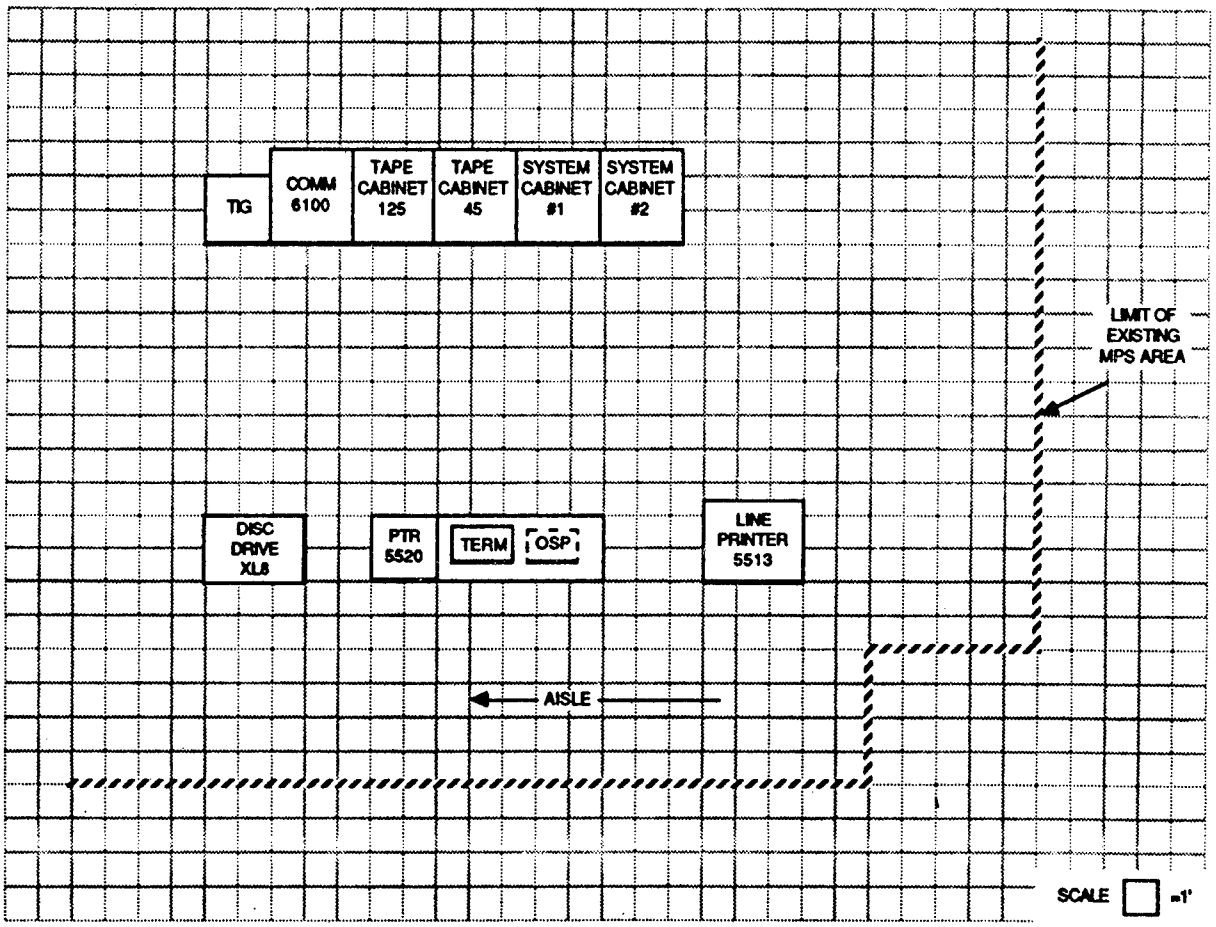


FIGURE 12-1. OAKLAND MPS SITE # 12 - BEFORE ENHANCEMENT

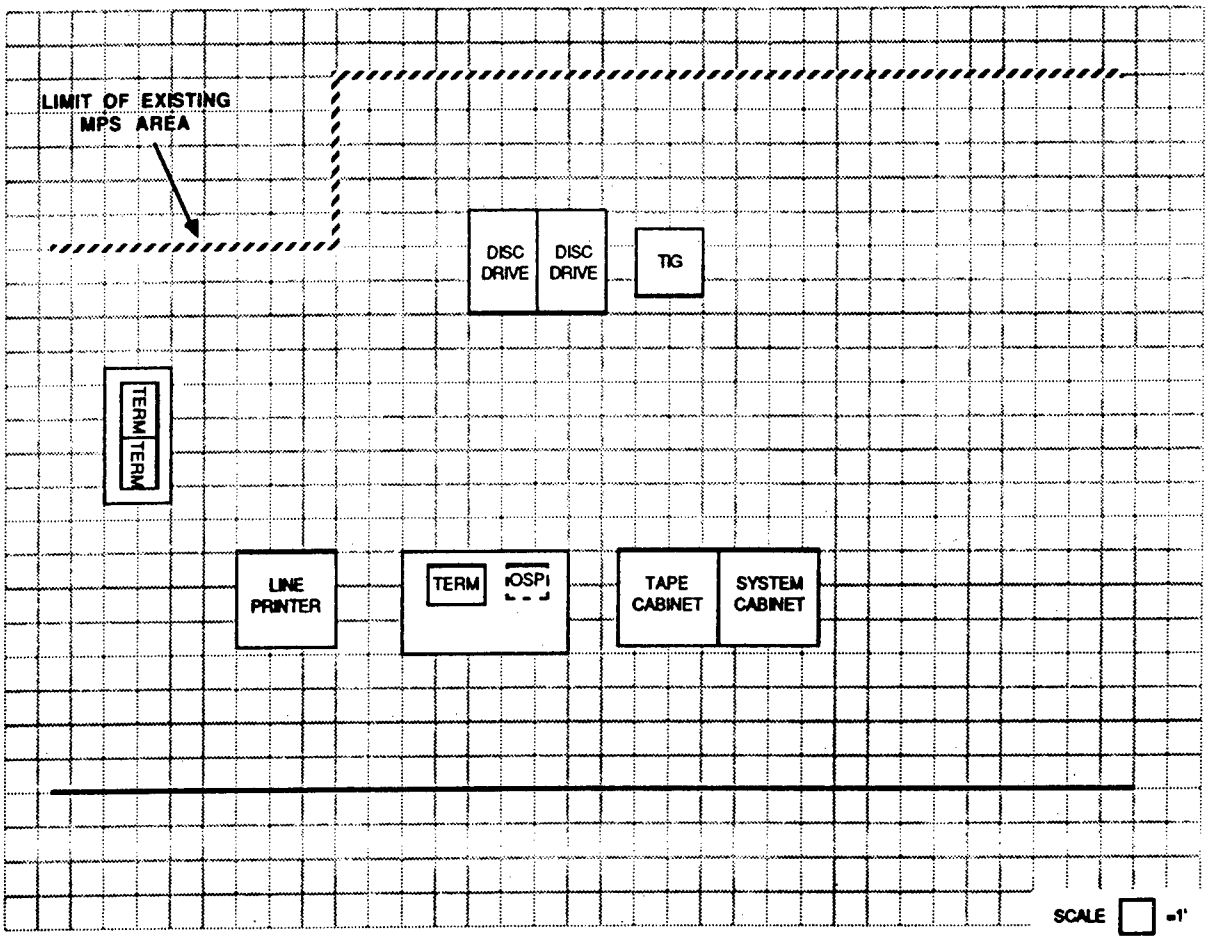


FIGURE 12-2. OAKLAND MPS SITE # 12 - AFTER ENHANCEMENT

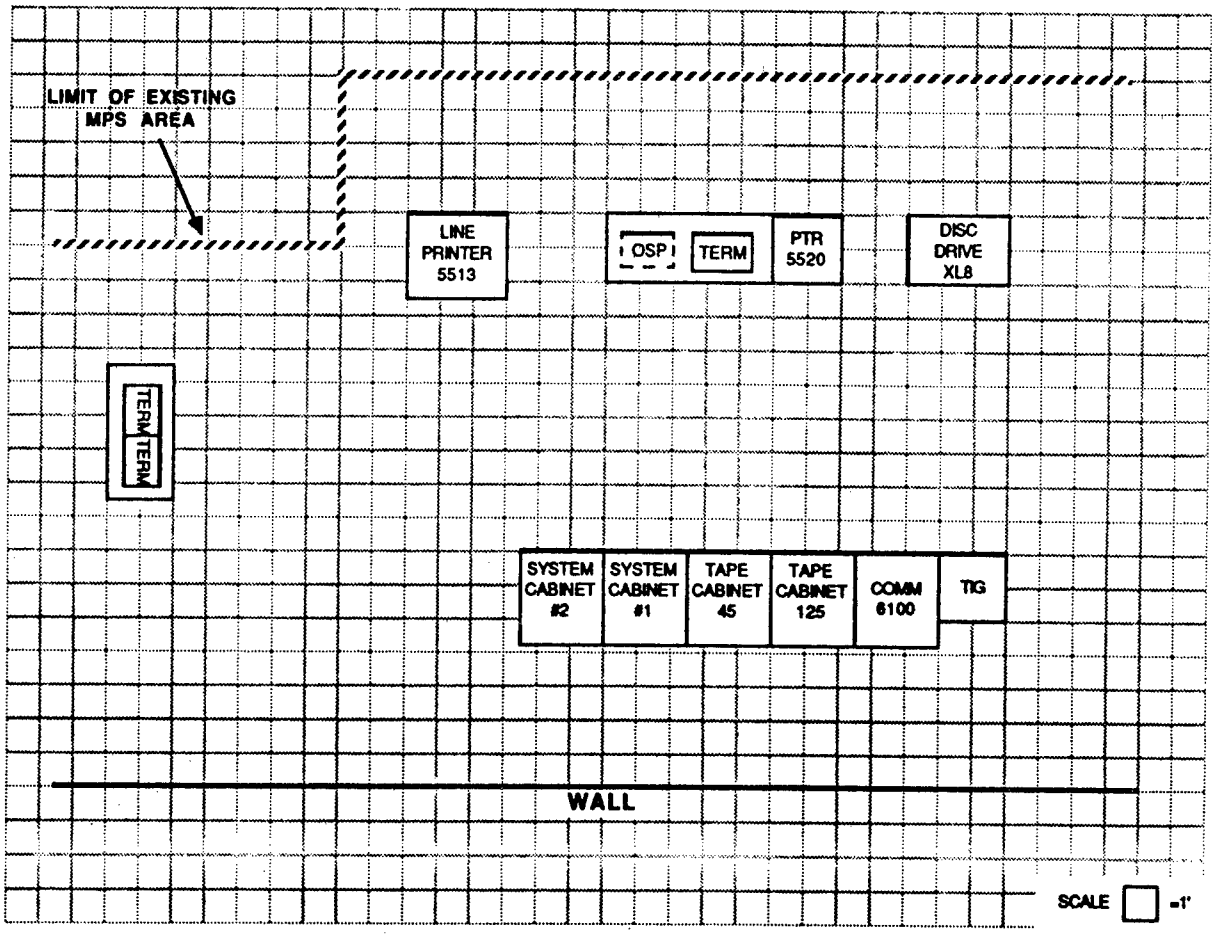


FIGURE 13-1. MEMPHIS MPS SITE # 13 - BEFORE ENHANCEMENT

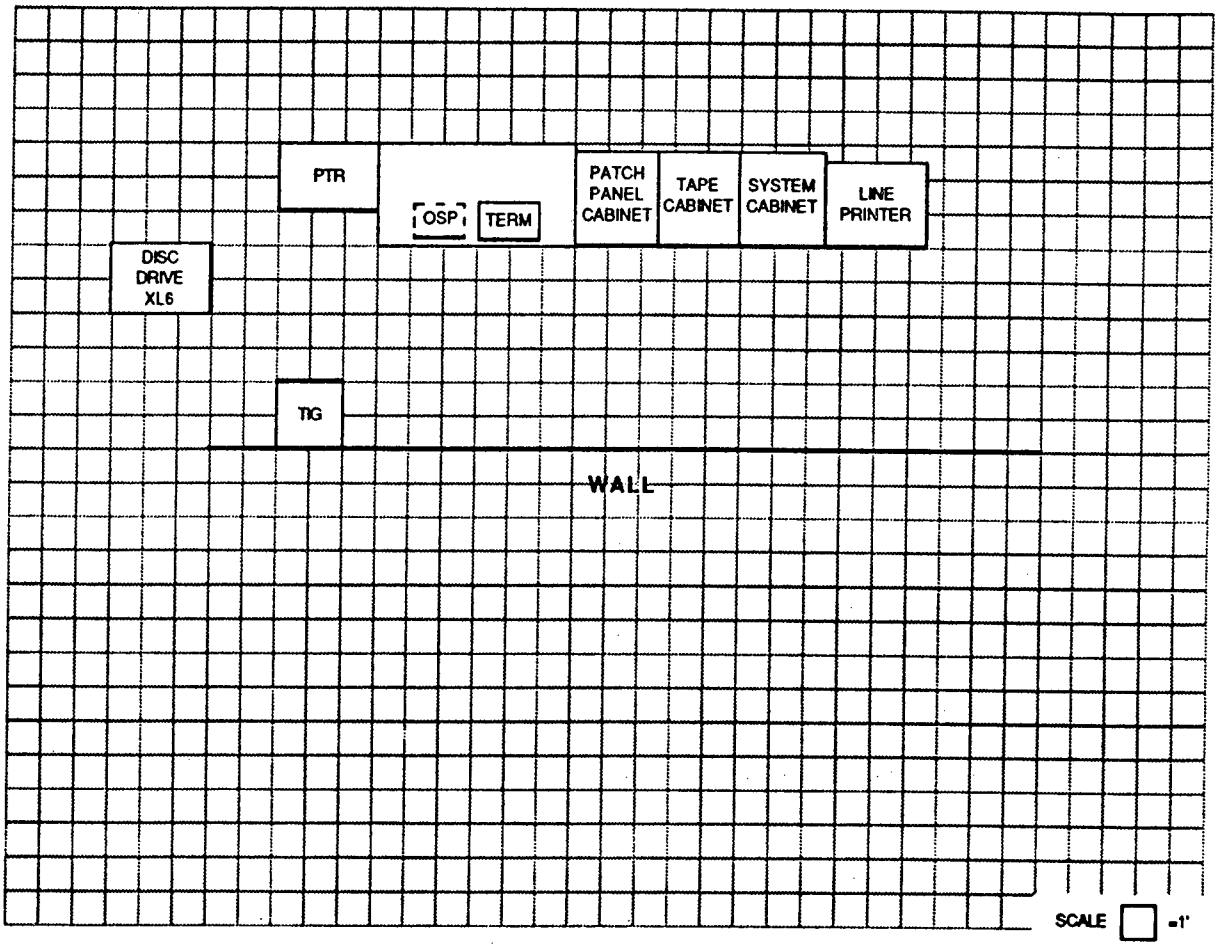


FIGURE 13-2. MEMPHIS MPS SITE # 13 - AFTER ENHANCEMENT

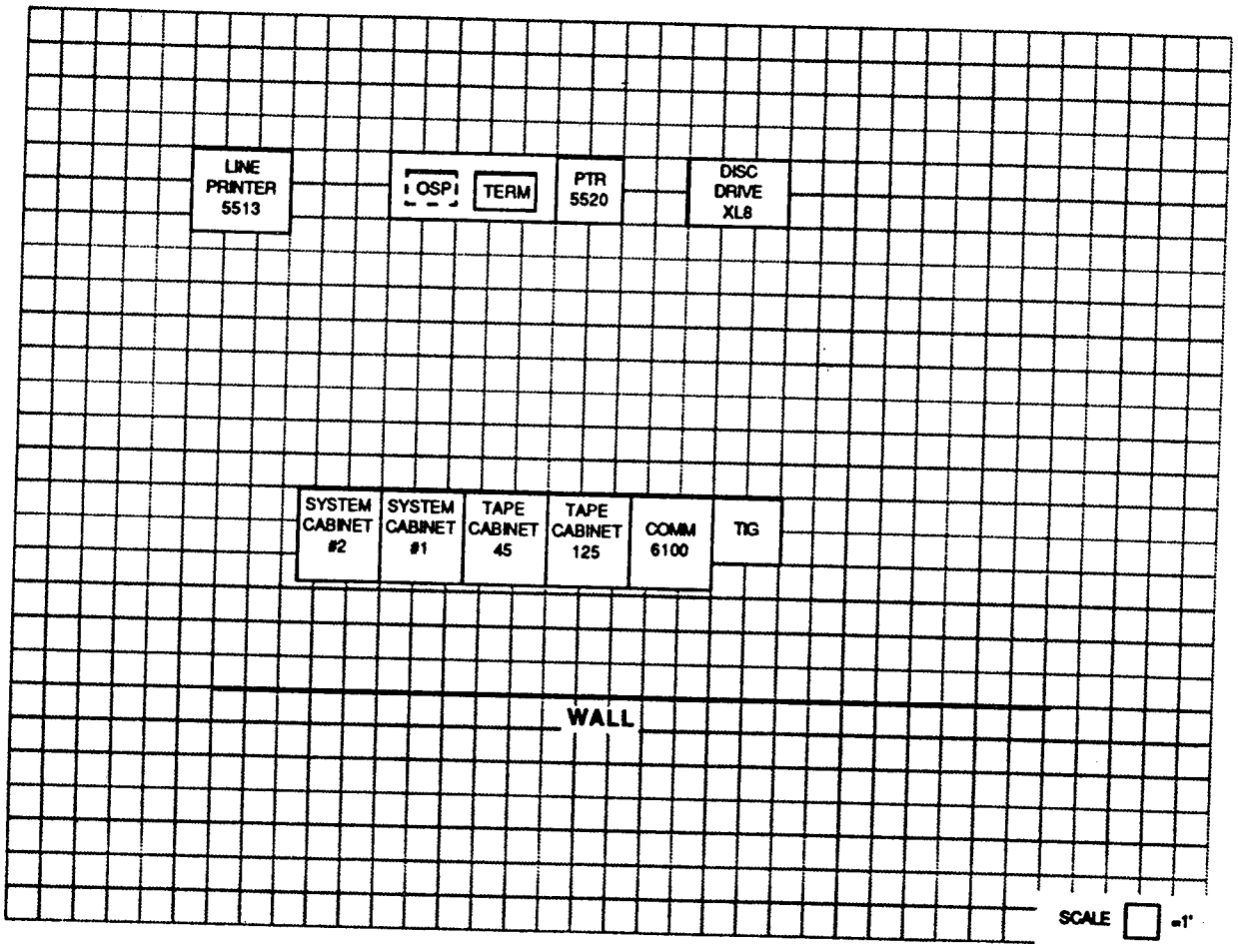


FIGURE 14-1. SEATTLE MPS SITE # 14 - BEFORE ENHANCEMENT

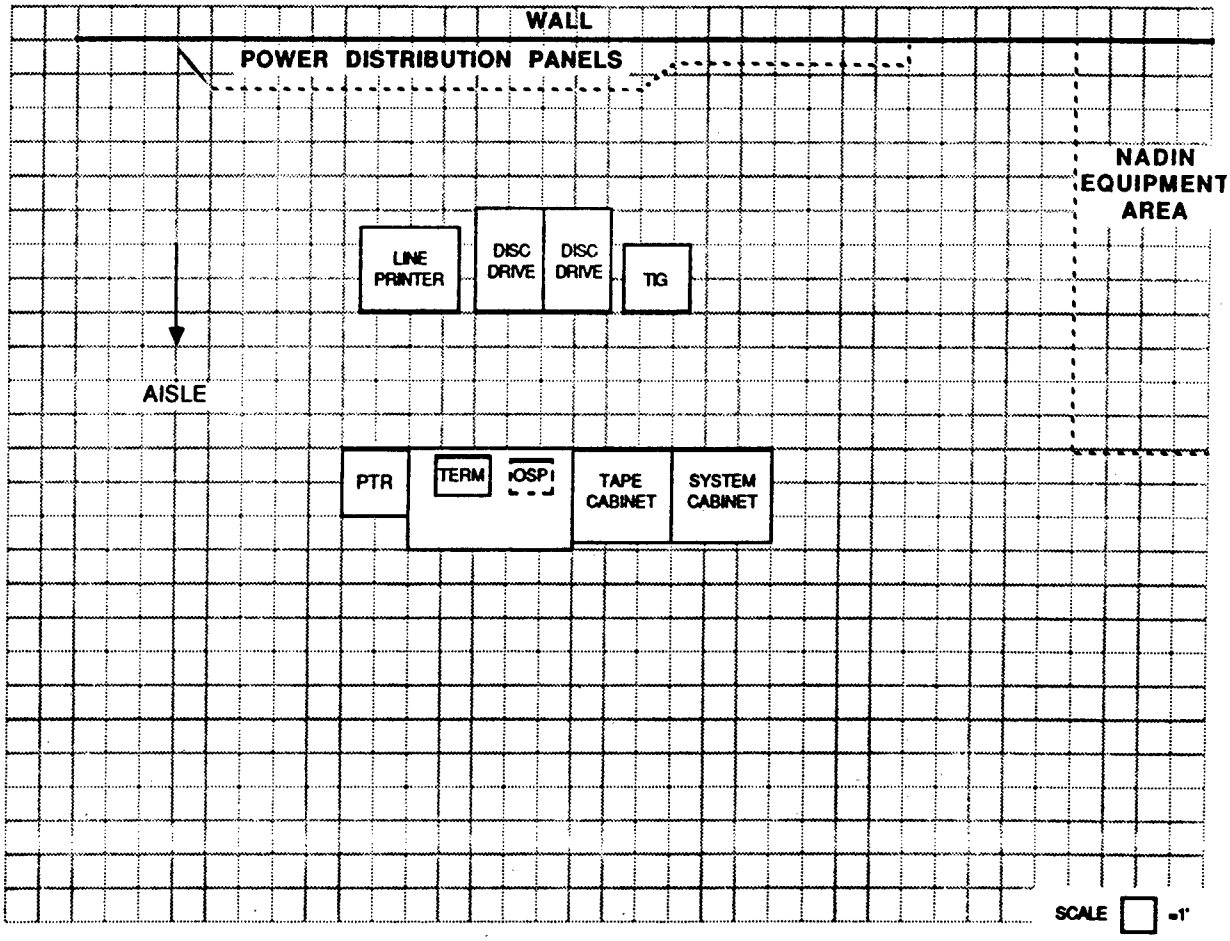


FIGURE 14-2. SEATTLE MPS SITE # 14 - AFTER ENHANCEMENT

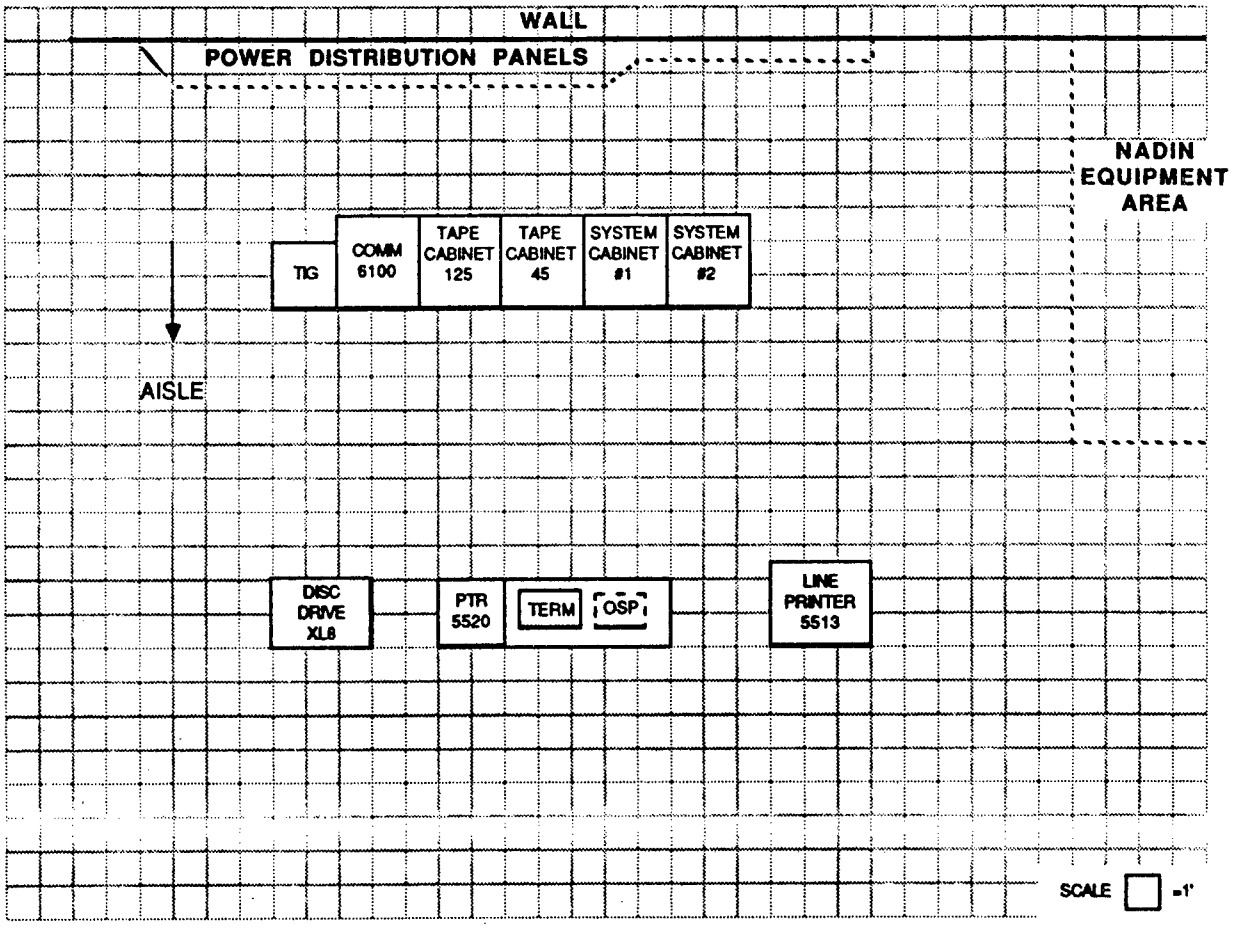


FIGURE 15-1. HONOLULU MPS SITE # 15 - BEFORE ENHANCEMENT

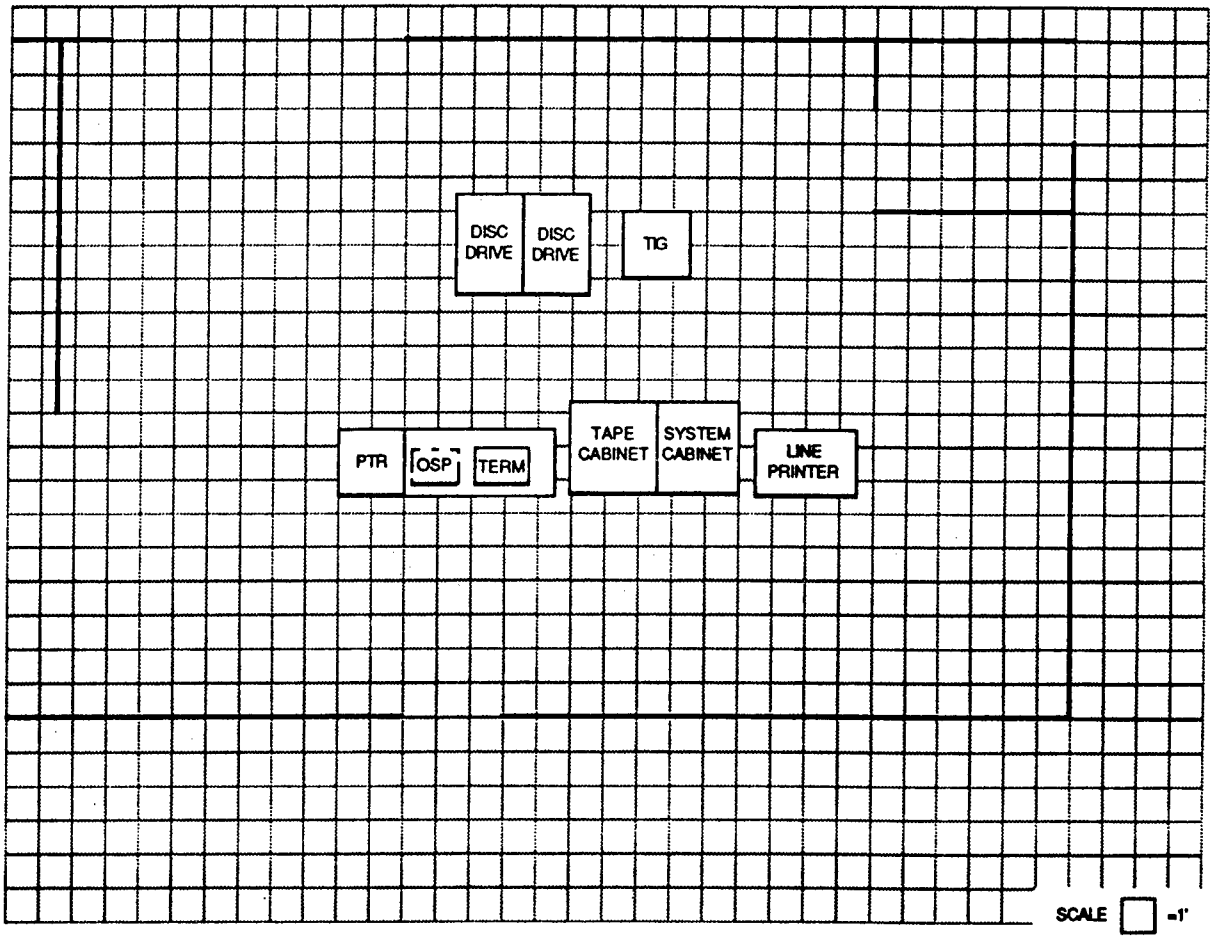


FIGURE 15-2. HONOLULU MPS SITE # 15 - AFTER ENHANCEMENT

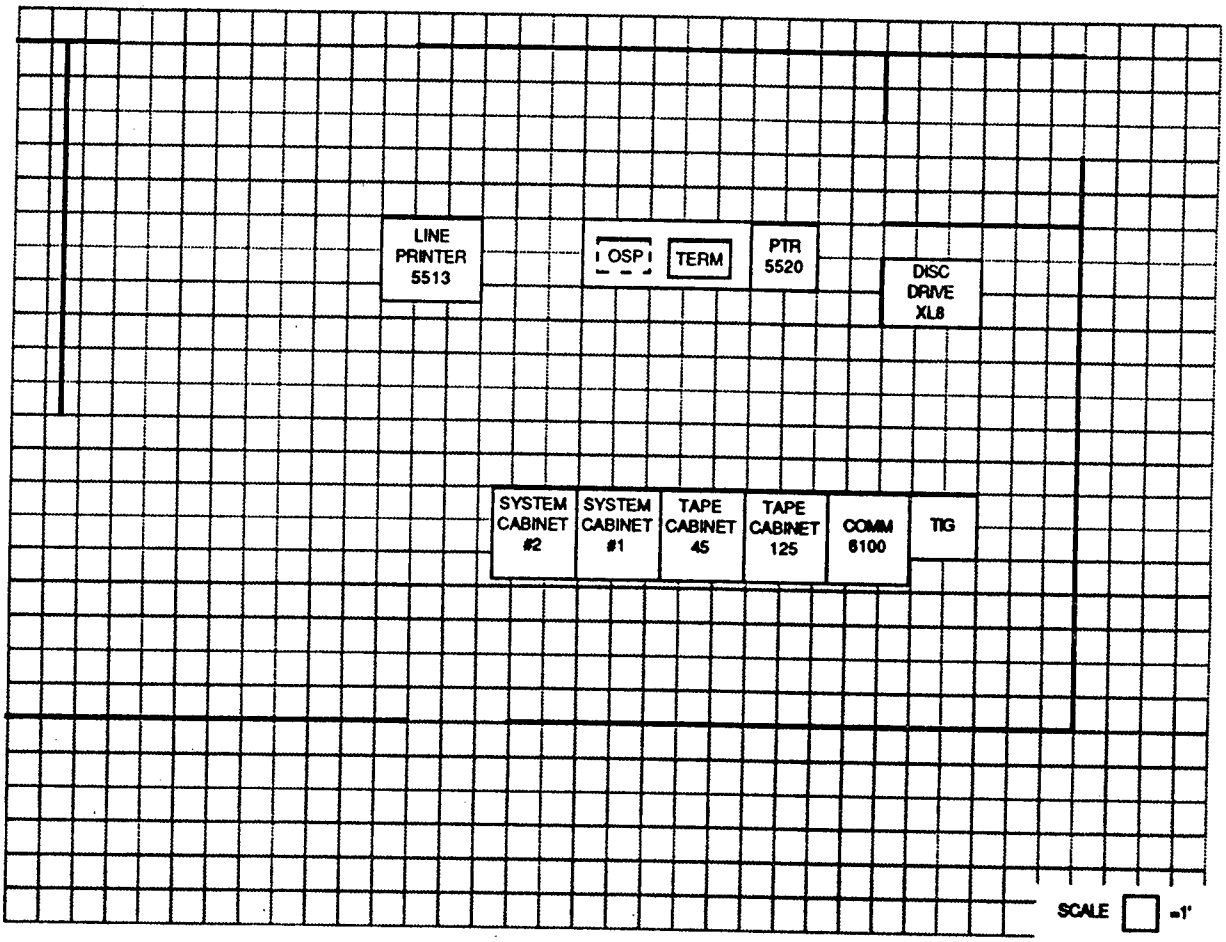


FIGURE 16-1. SALT LAKE CITY MPS SITE # 16 - BEFORE ENHANCEMENT

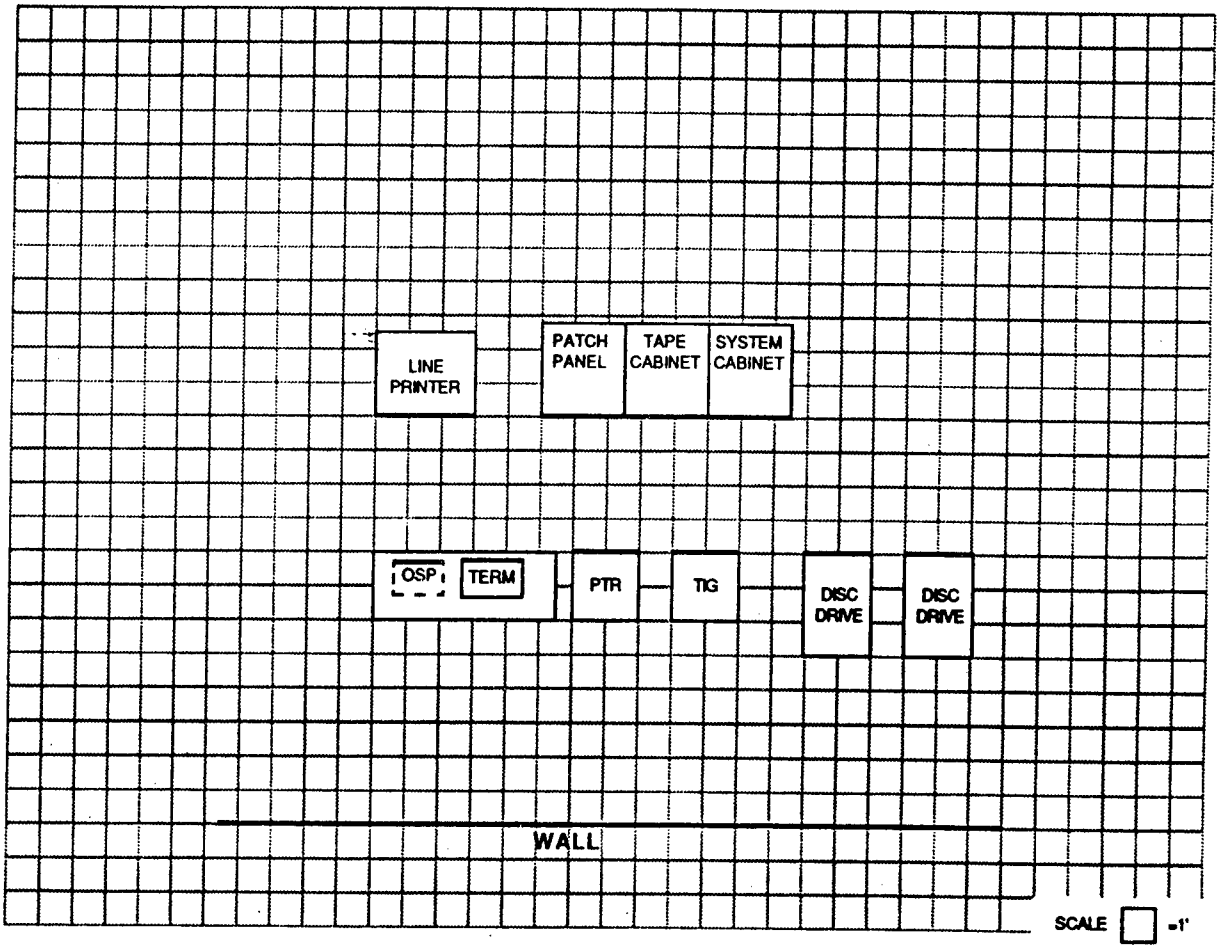


FIGURE 16-2. SALT LAKE CITY MPS SITE # 16 - AFTER ENHANCEMENT

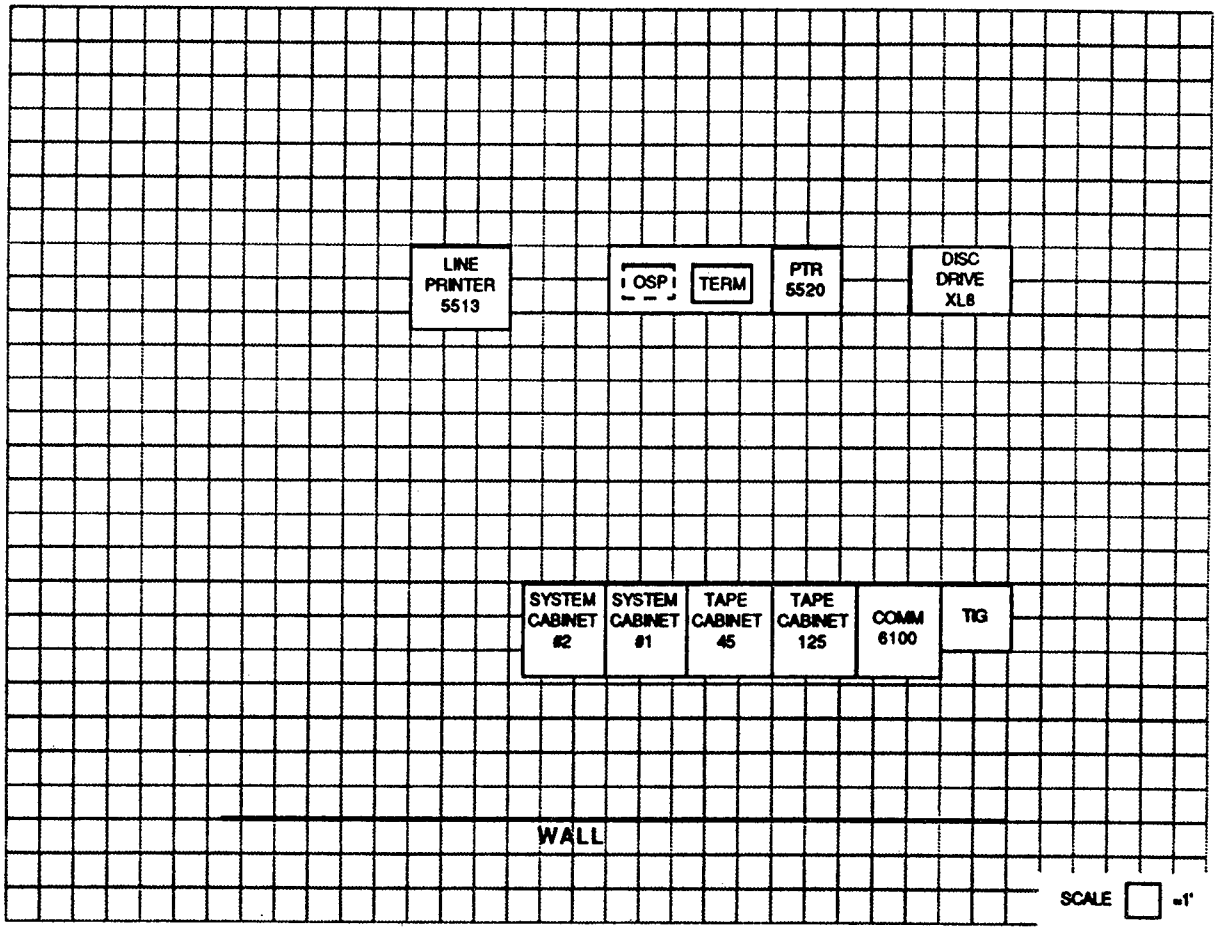


FIGURE 17-1. DENVER MPS SITE # 17 - BEFORE ENHANCEMENT

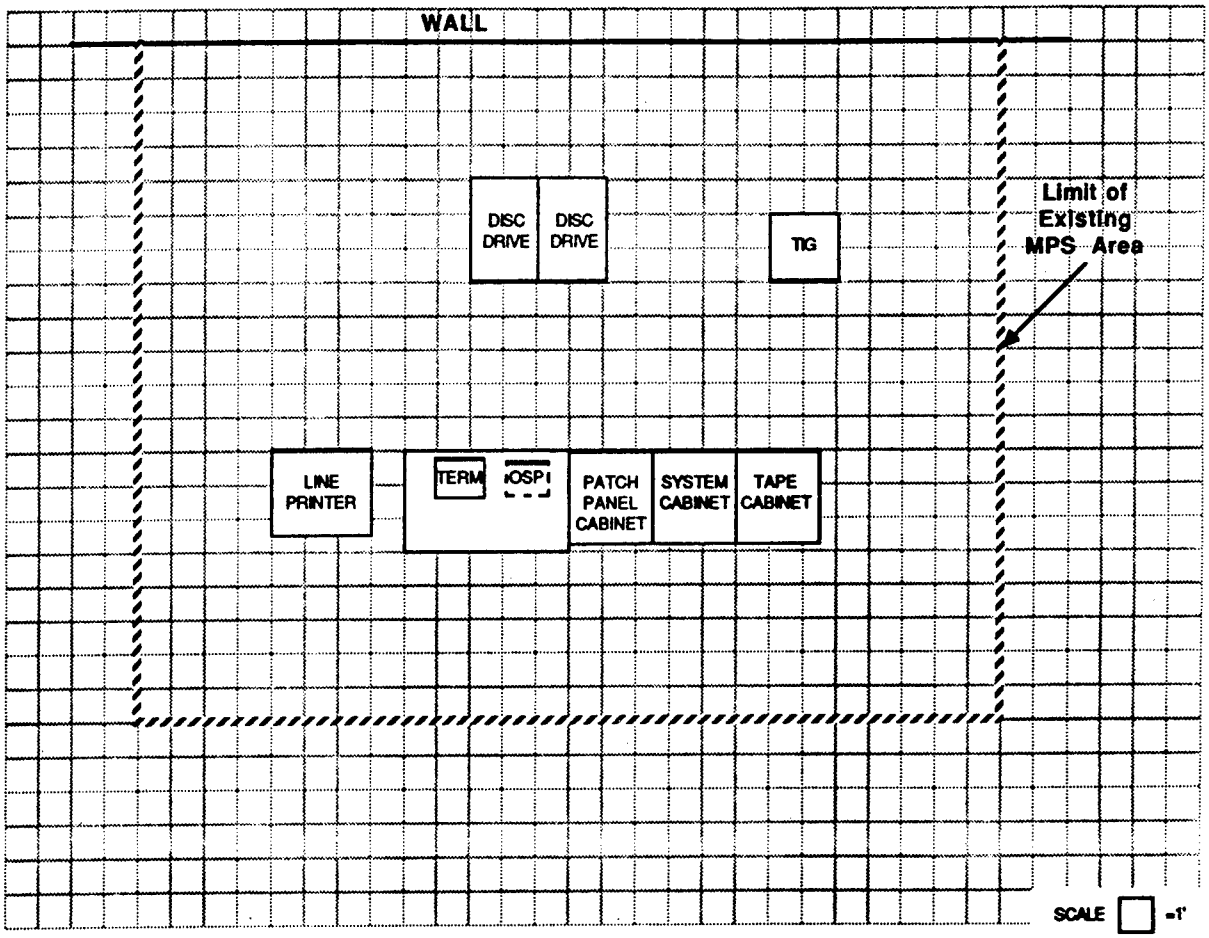


FIGURE 17-2. DENVER MPS SITE # 17 - AFTER ENHANCEMENT

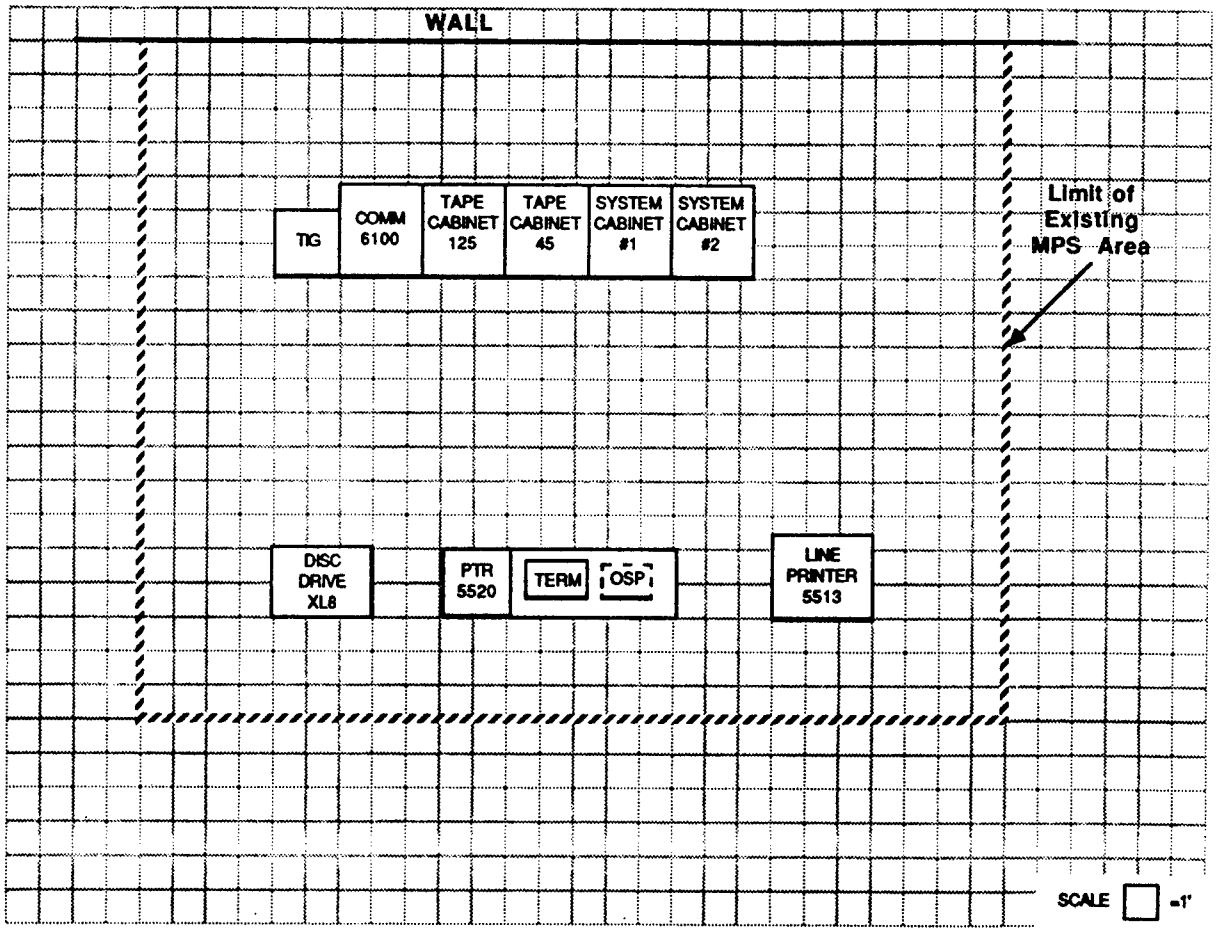


FIGURE 18-1. MINNEAPOLIS MPS SITE # 18 - BEFORE ENHANCEMENT

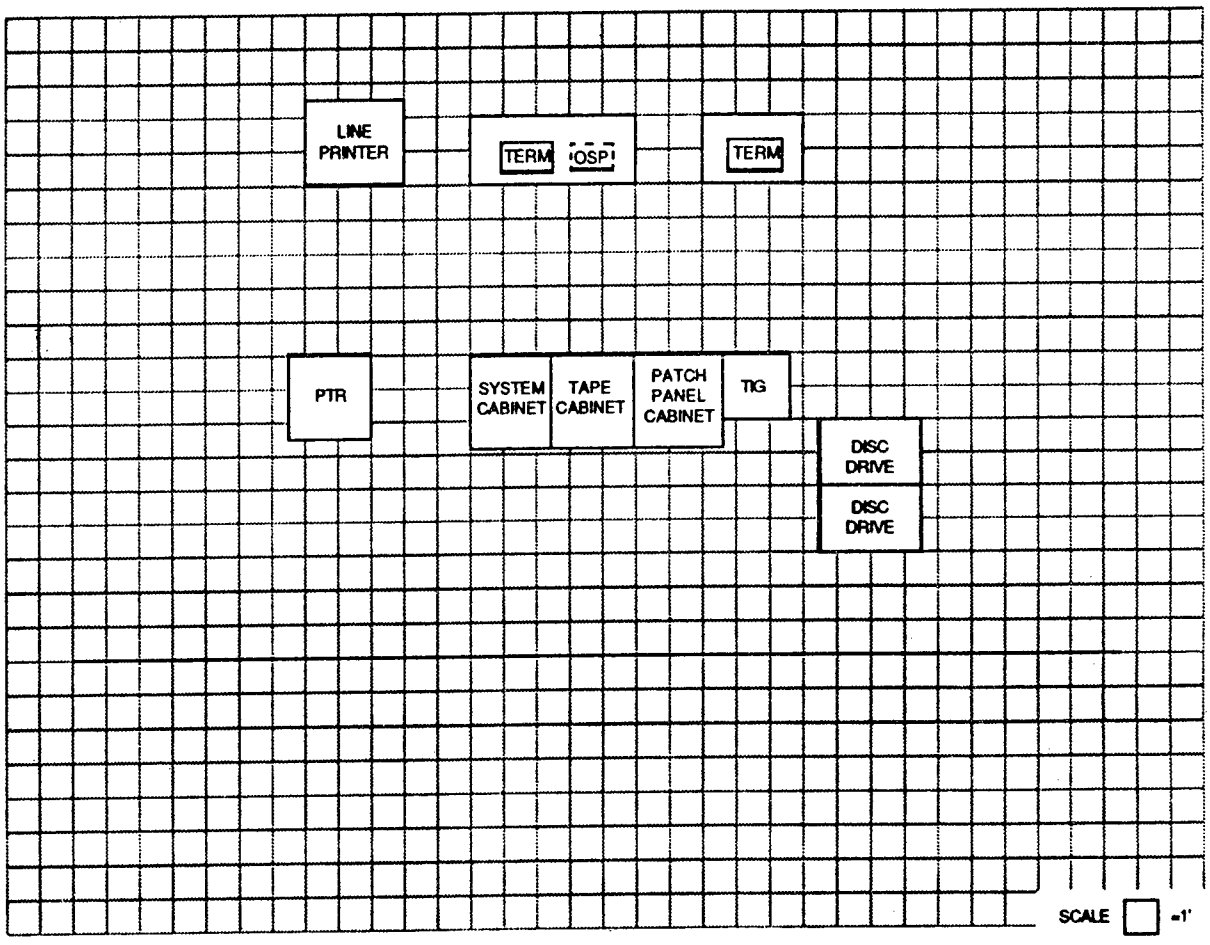


FIGURE 18-2. MINNEAPOLIS MPS SITE # 18 - AFTER ENHANCEMENT

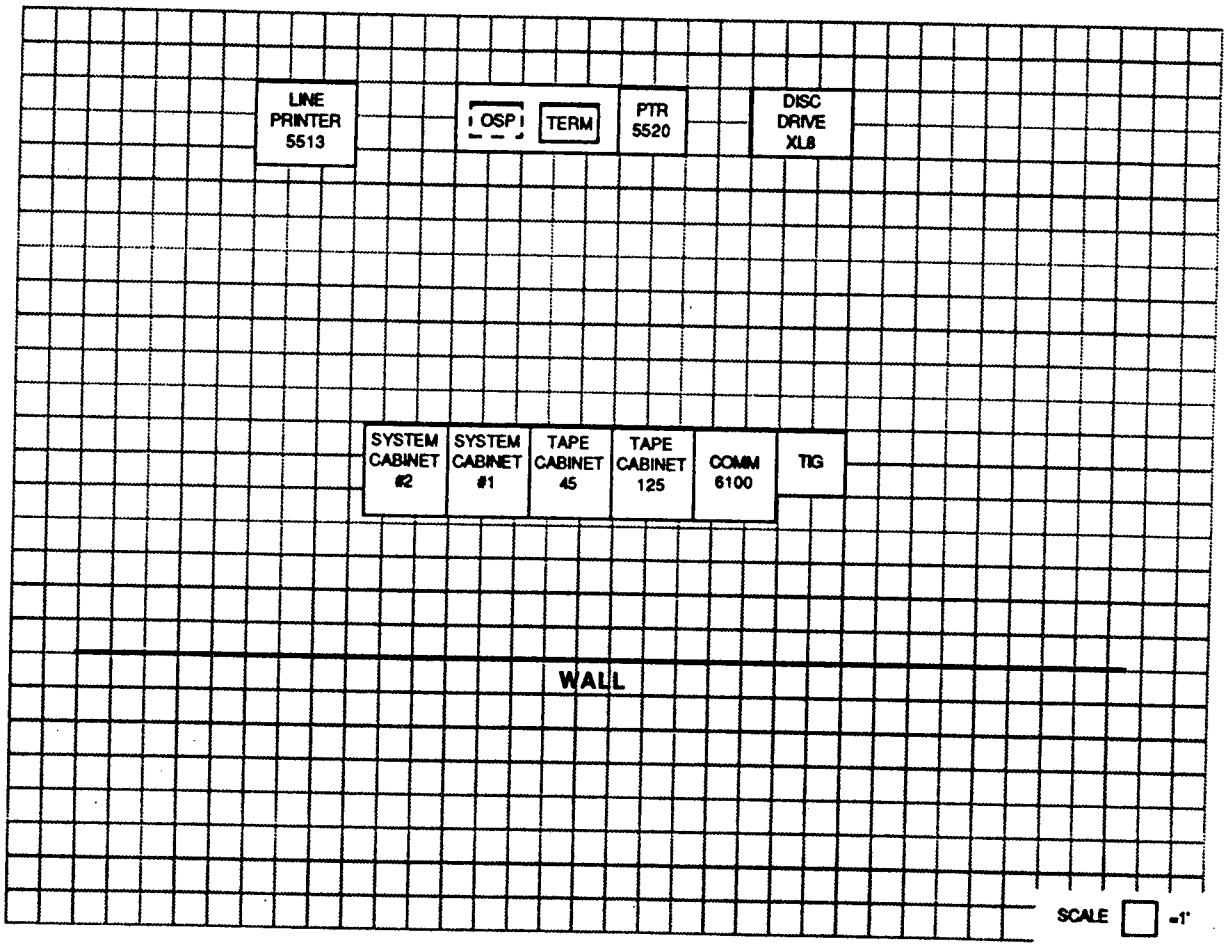


FIGURE 19-1. INDIANAPOLIS MPS SITE # 19 - BEFORE ENHANCEMENT

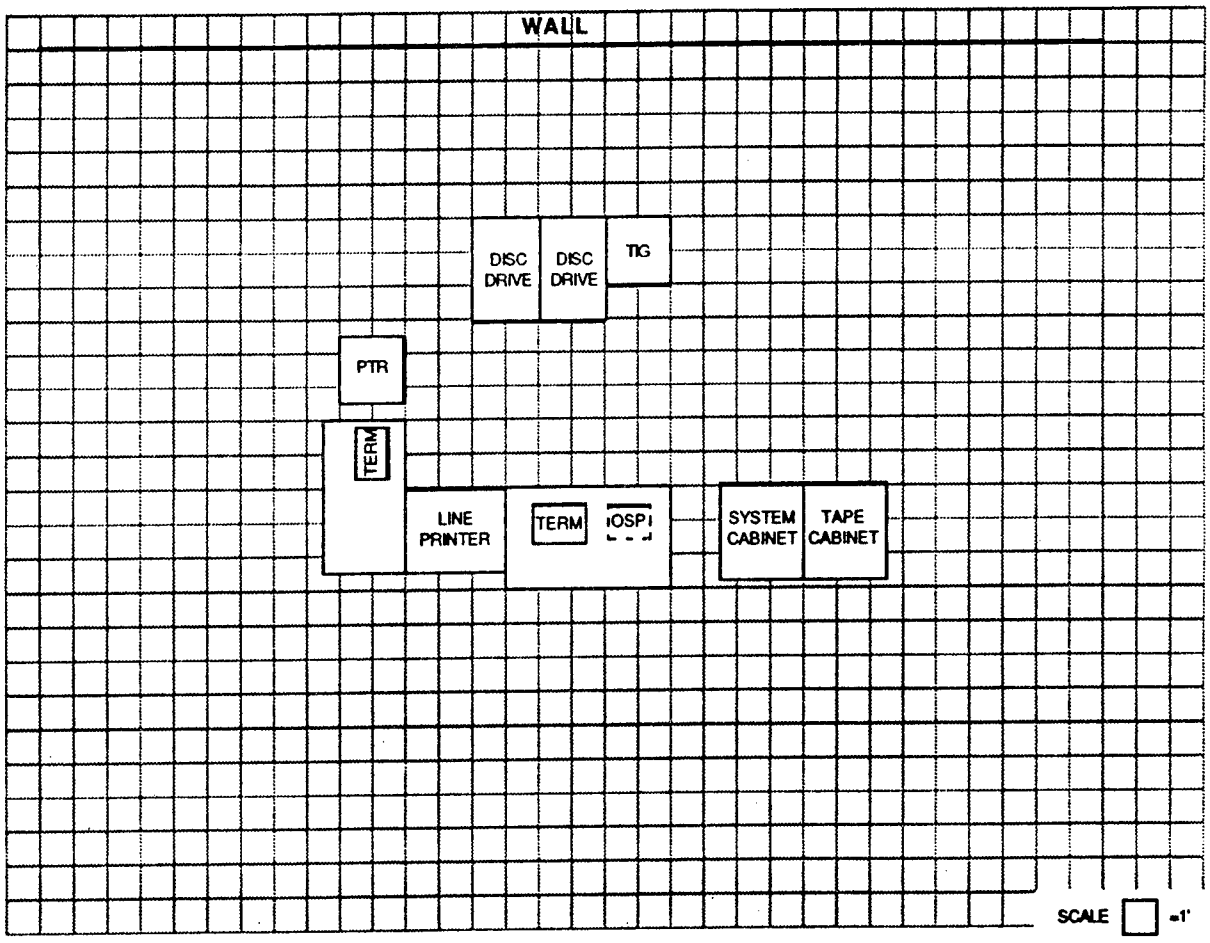


FIGURE 19-2. INDIANAPOLIS MPS SITE # 19 - AFTER ENHANCEMENT

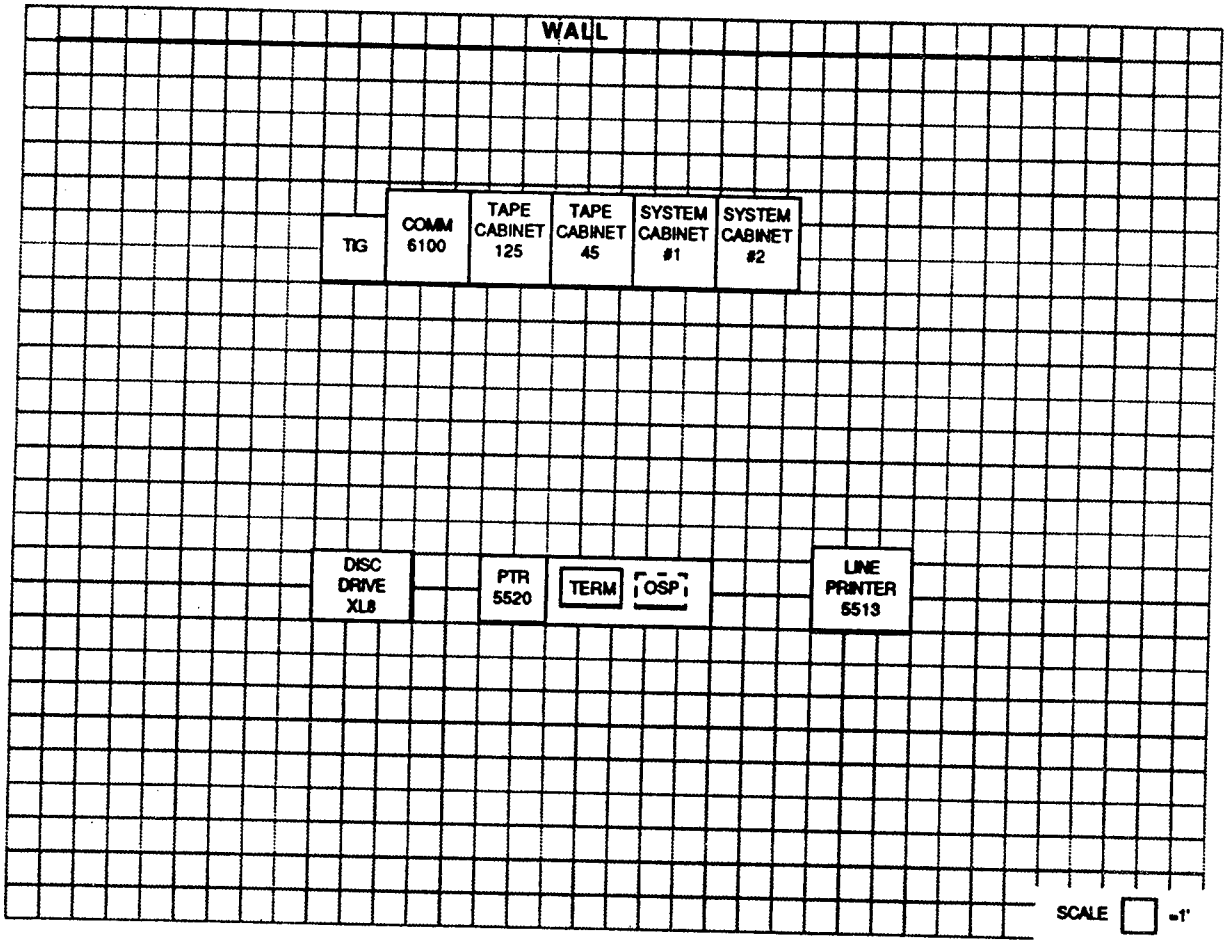


FIGURE 20-1. CLEVELAND MPS SITE # 20 - BEFORE ENHANCEMENT

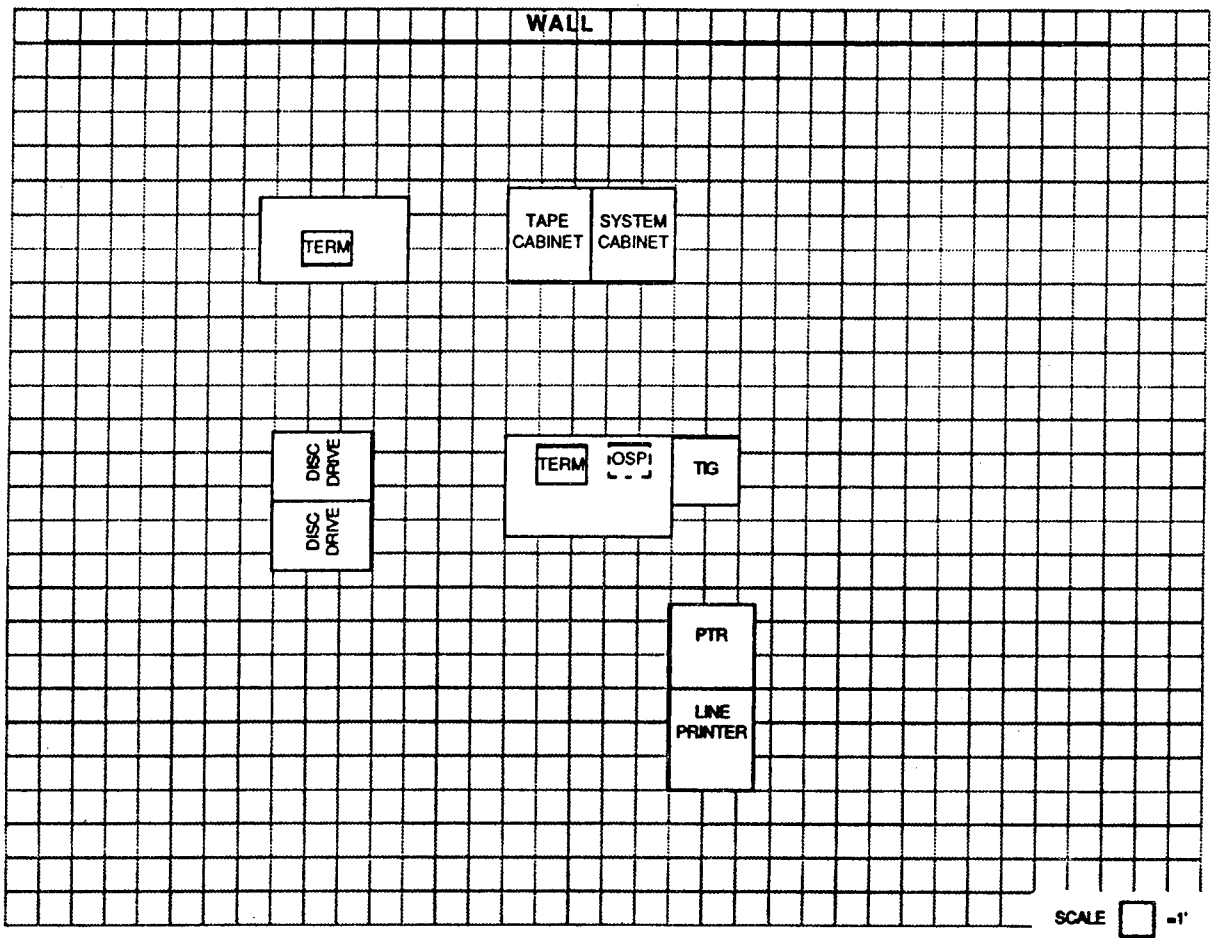


FIGURE 20-2. CLEVELAND MPS SITE # 20 - AFTER ENHANCEMENT

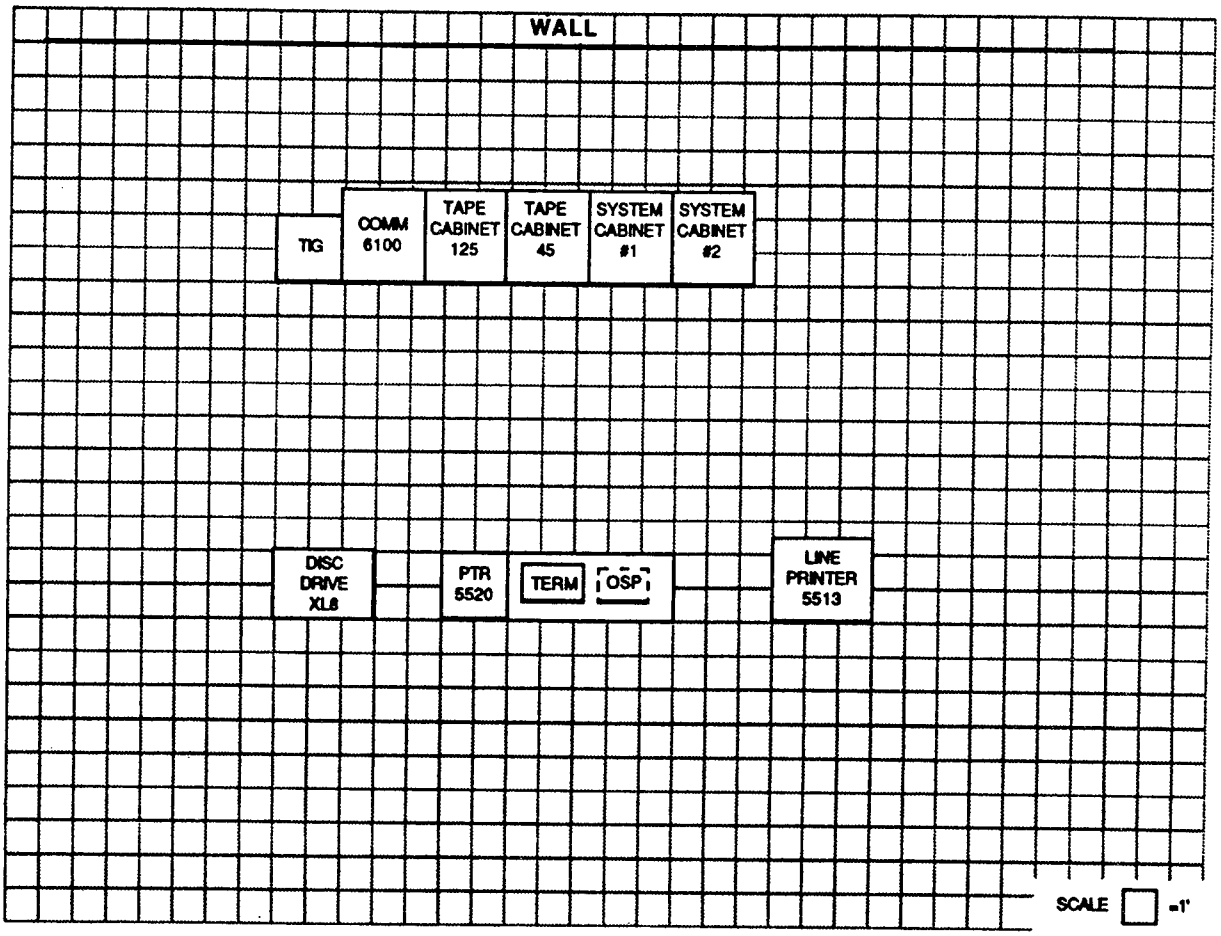


FIGURE 21-1. WASHINGTON (LEESBURG) MPS SITE # 21 - BEFORE ENHANCEMENT

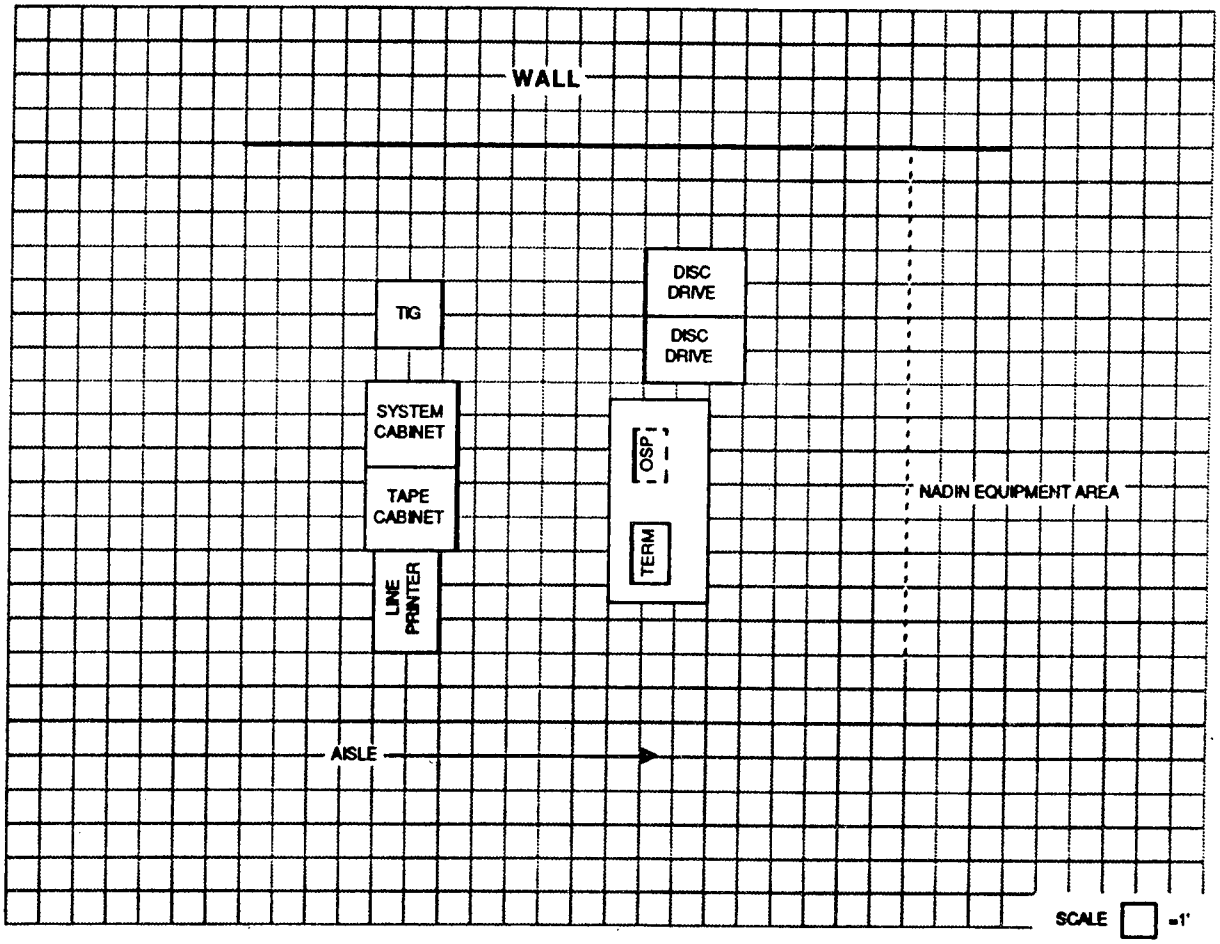


FIGURE 21-2. WASHINGTON (LEESBURG) MPS SITE # 21 - AFTER ENHANCEMENT

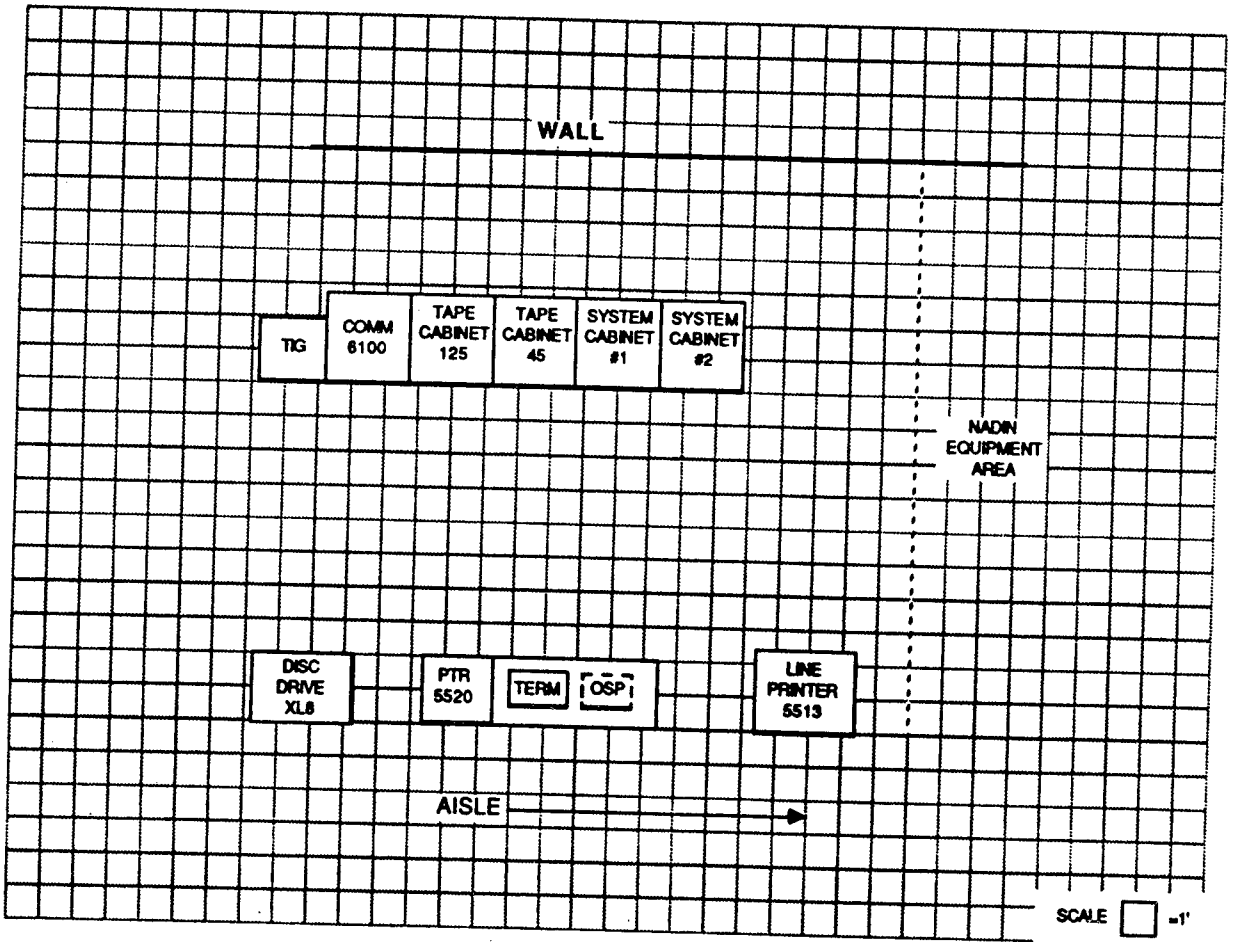


FIGURE 22-1. NEW YORK MPS SITE # 22 - BEFORE ENHANCEMENT

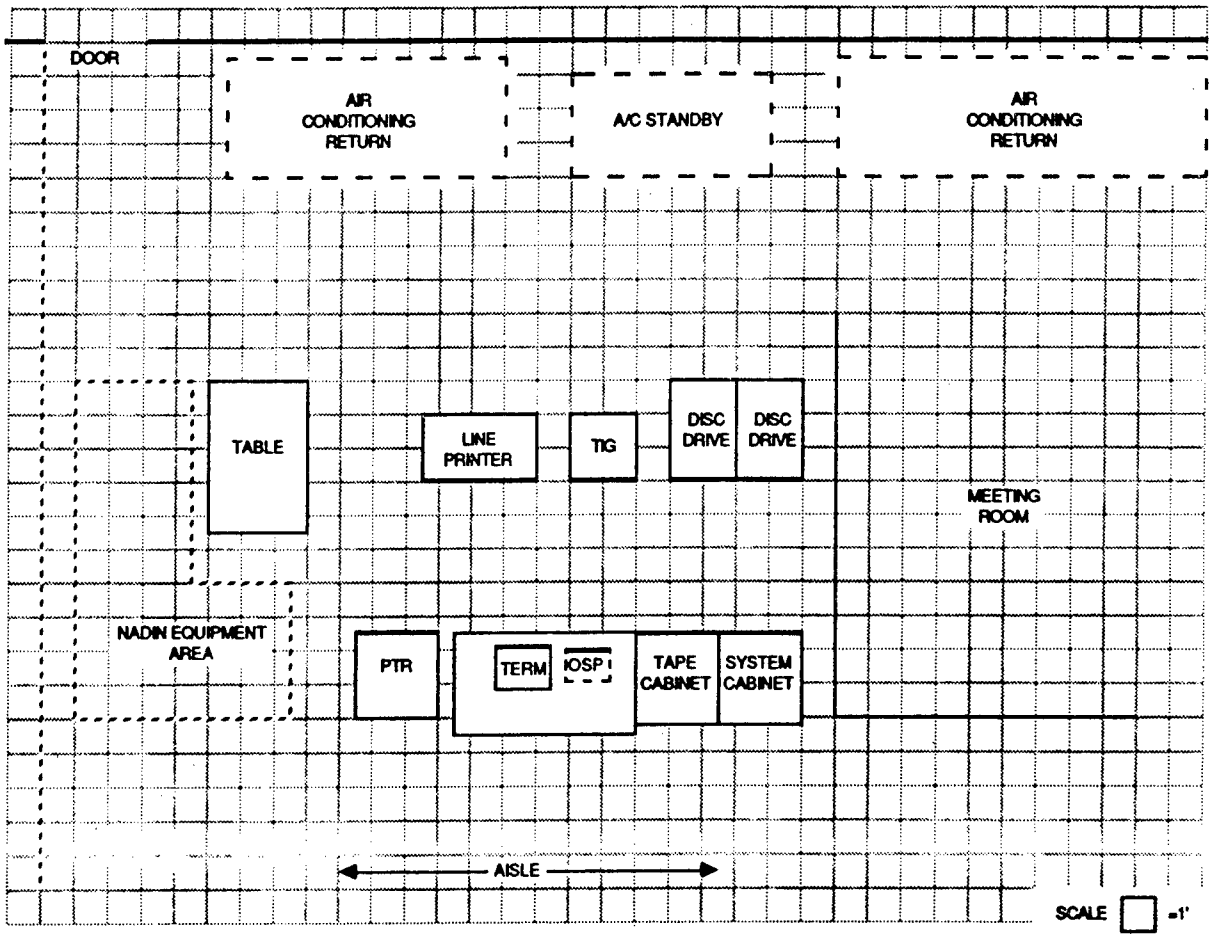


FIGURE 22-2. NEW YORK MPS SITE # 22 - AFTER ENHANCEMENT

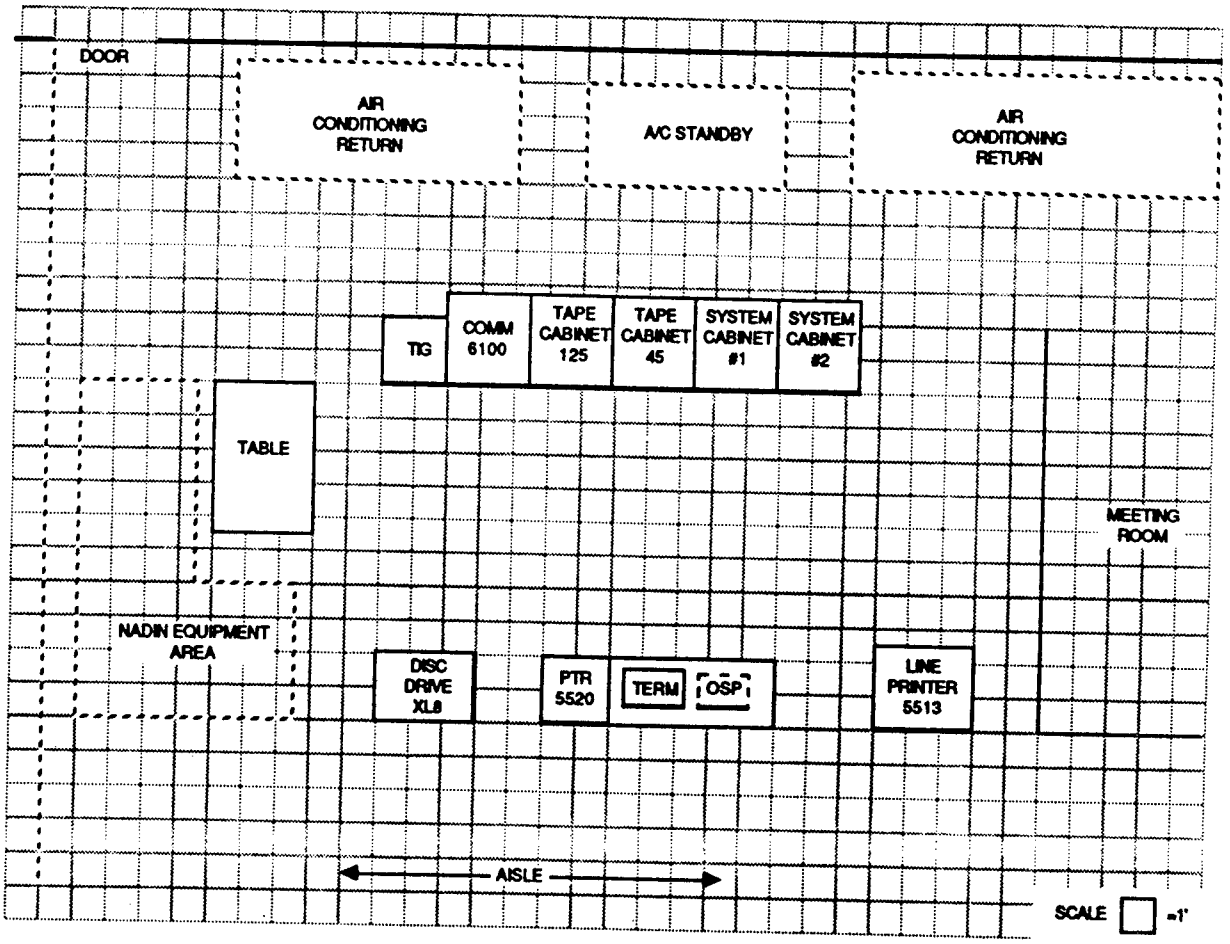


FIGURE 23-1. BOSTON MPS SITE # 23 - BEFORE ENHANCEMENT

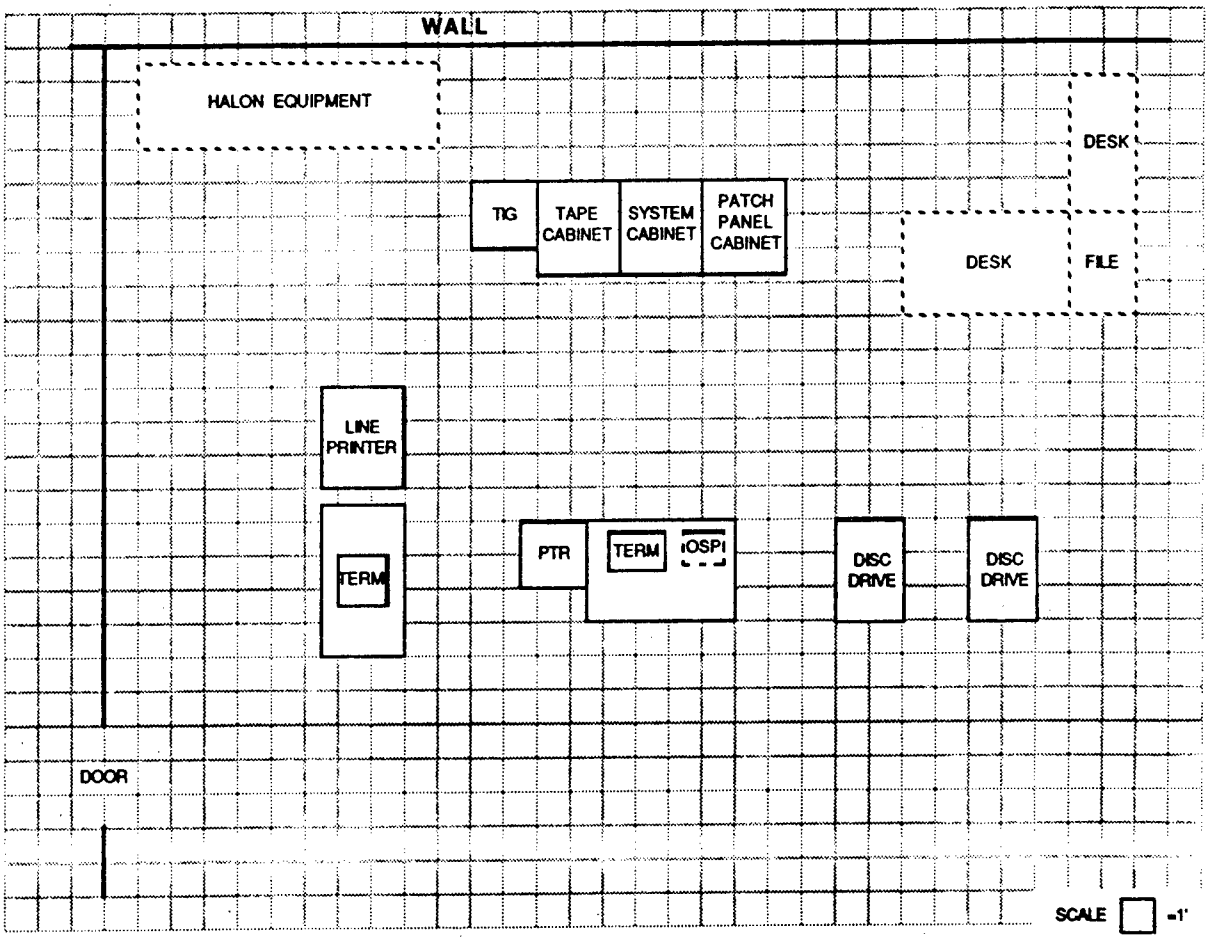


FIGURE 23-2. BOSTON MPS SITE # 23 - AFTER ENHANCEMENT

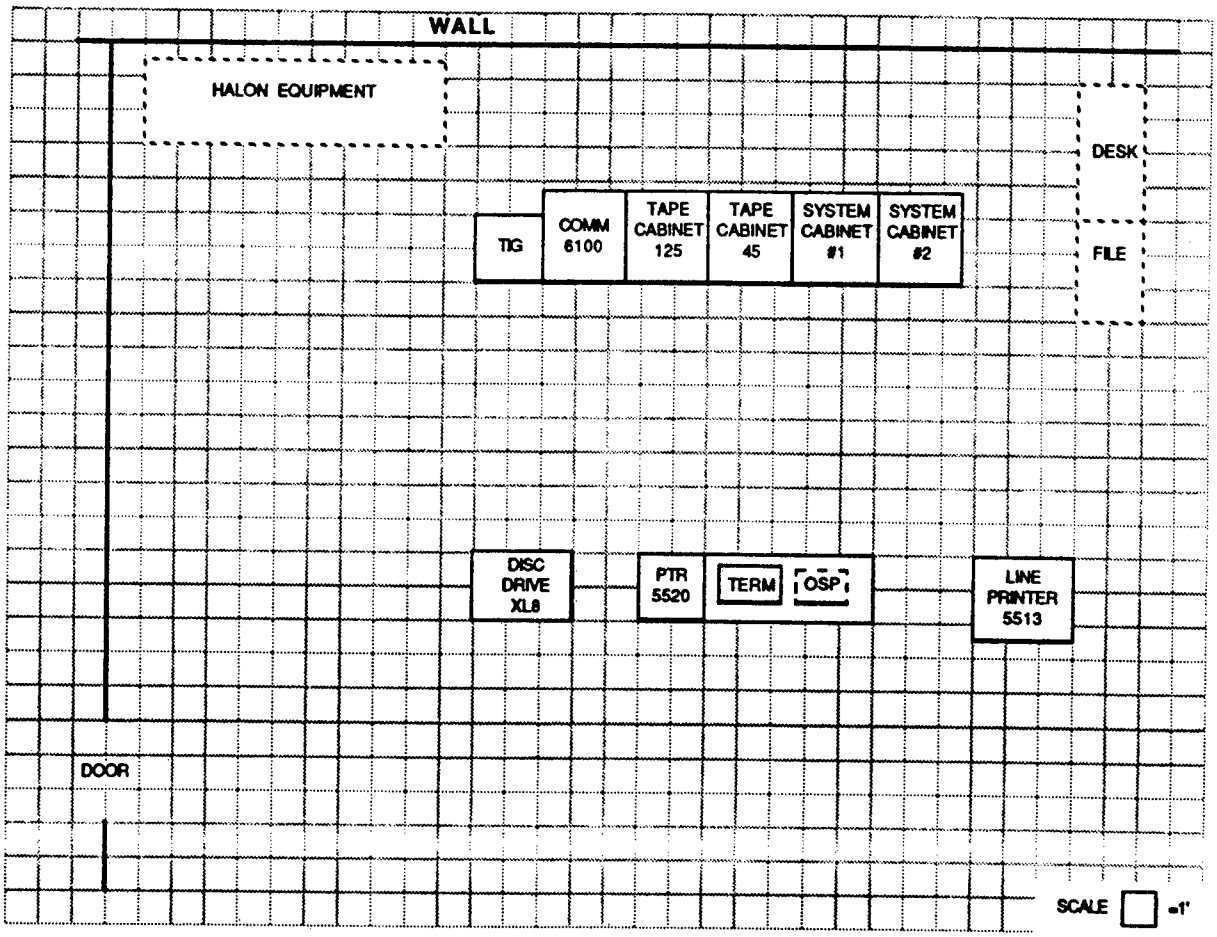


FIGURE 24-1. FAA HEADQUARTERS MPS SITE # 24 - BEFORE ENHANCEMENT

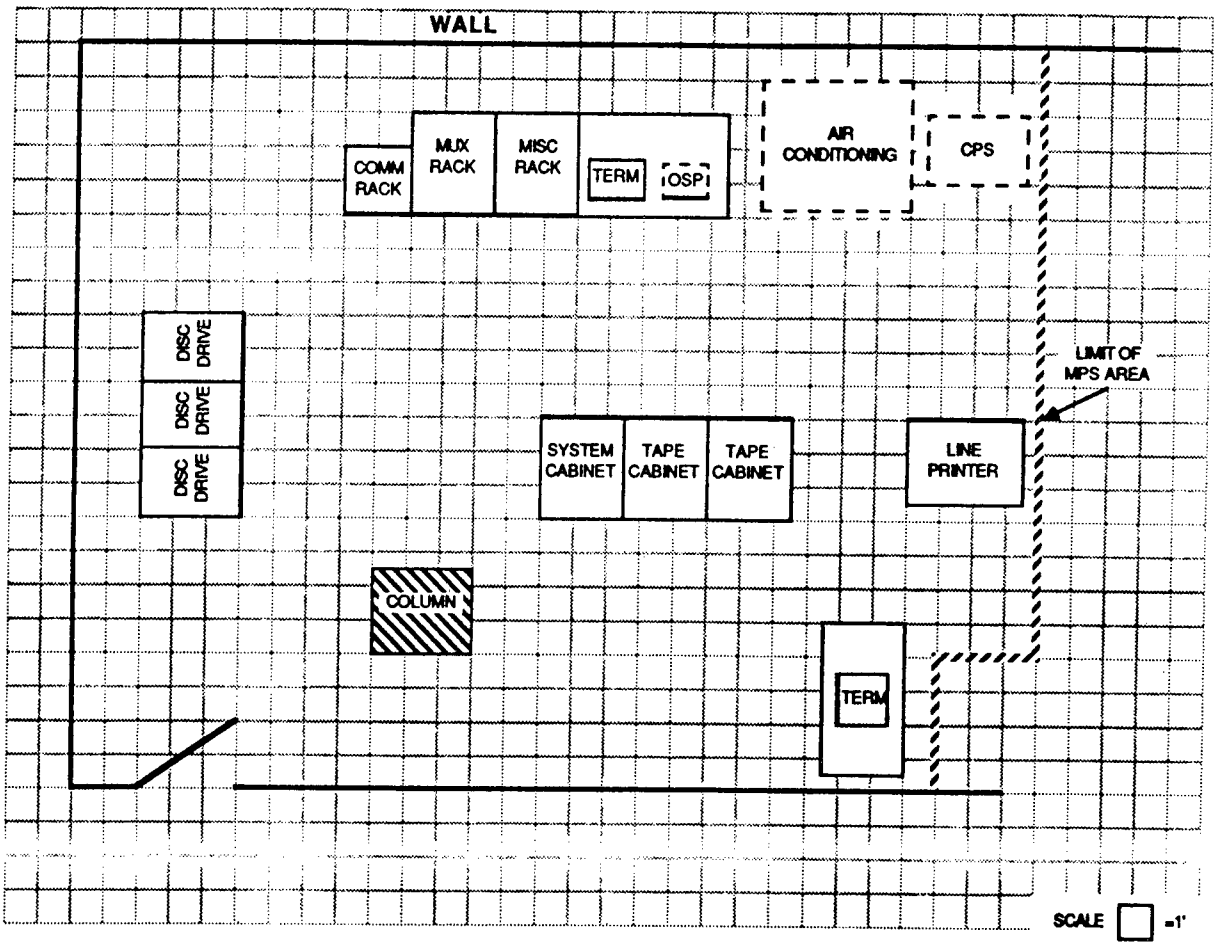


FIGURE 24-2. FAA HEADQUARTERS MPS SITE # 24 - AFTER ENHANCEMENT

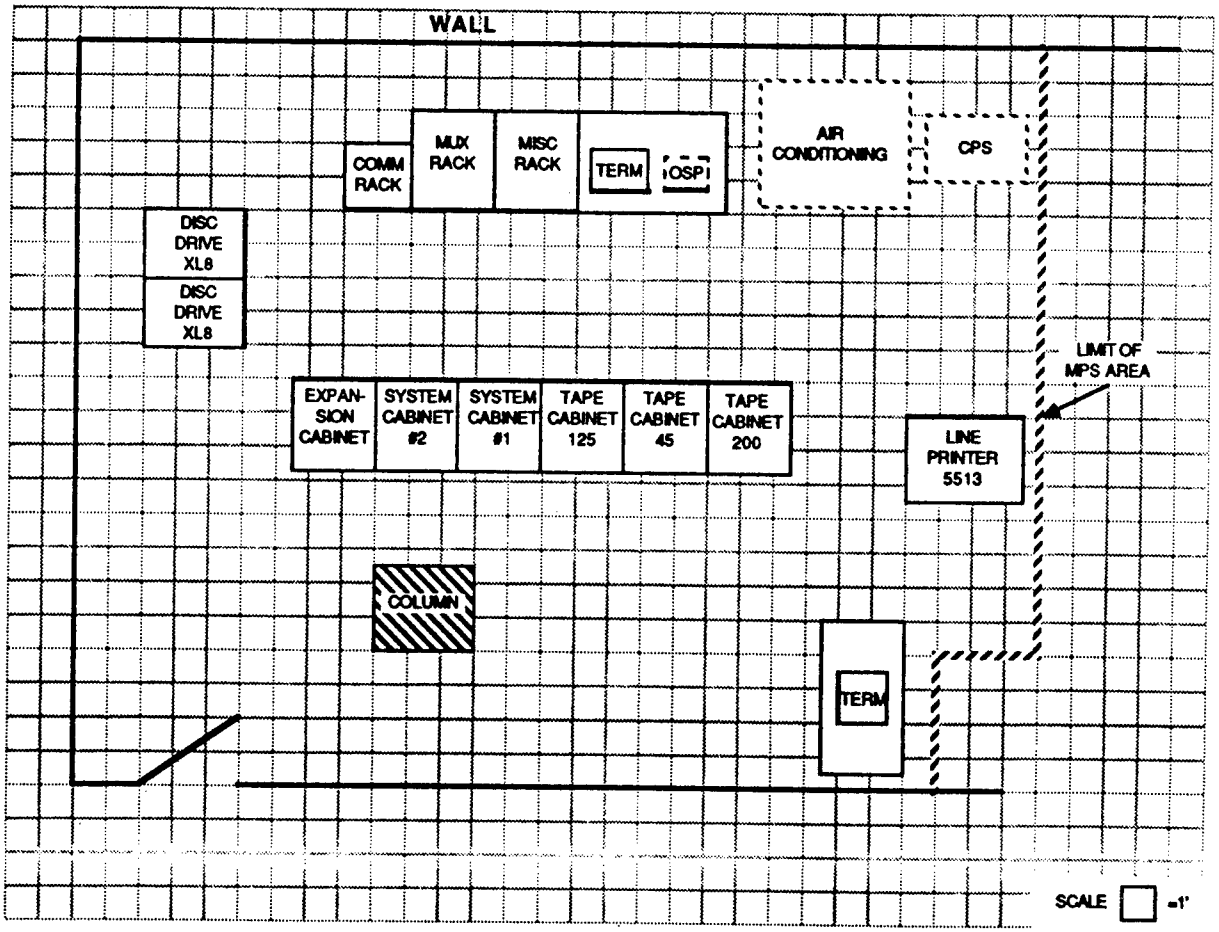


FIGURE 25-1. FAA TECHNICAL CENTER (ACT-110)
MPS SITE # 25 - BEFORE ENHANCEMENT

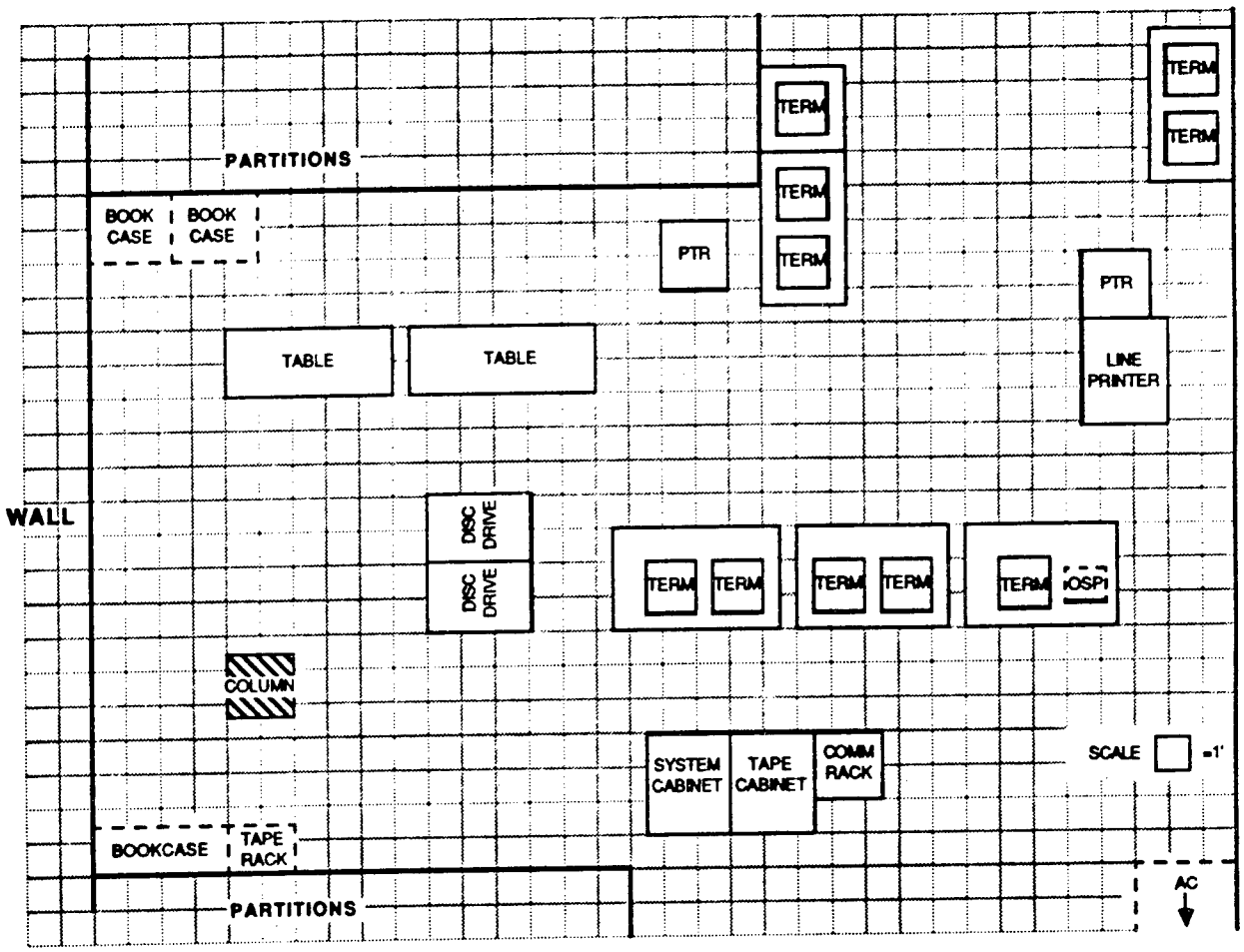


FIGURE 25-2. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25 (DELIVERY 1) - AFTER ENHANCEMENT

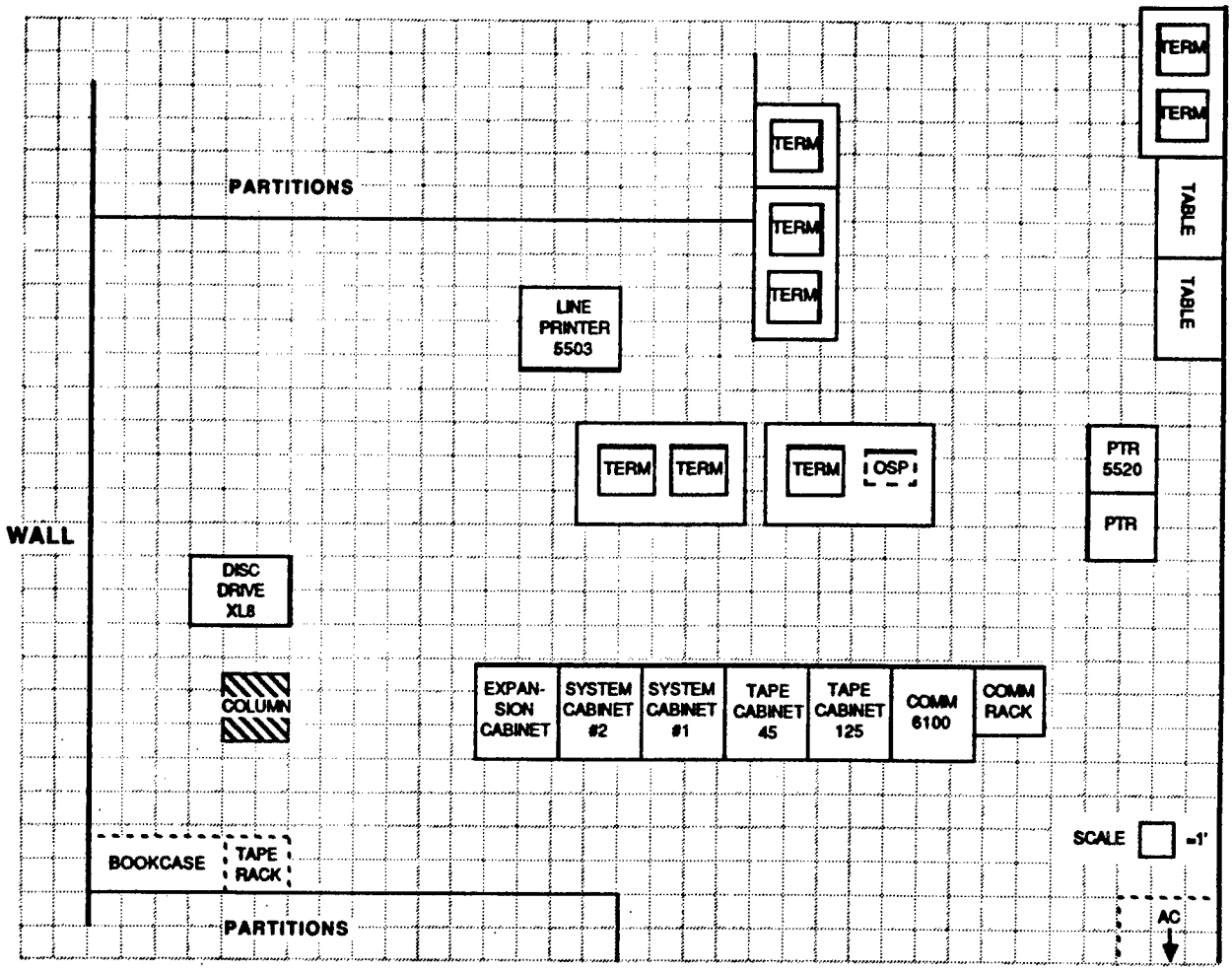


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FIGURE 25-3. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25 (DELIVERY 2) - AFTER ENHANCEMENT

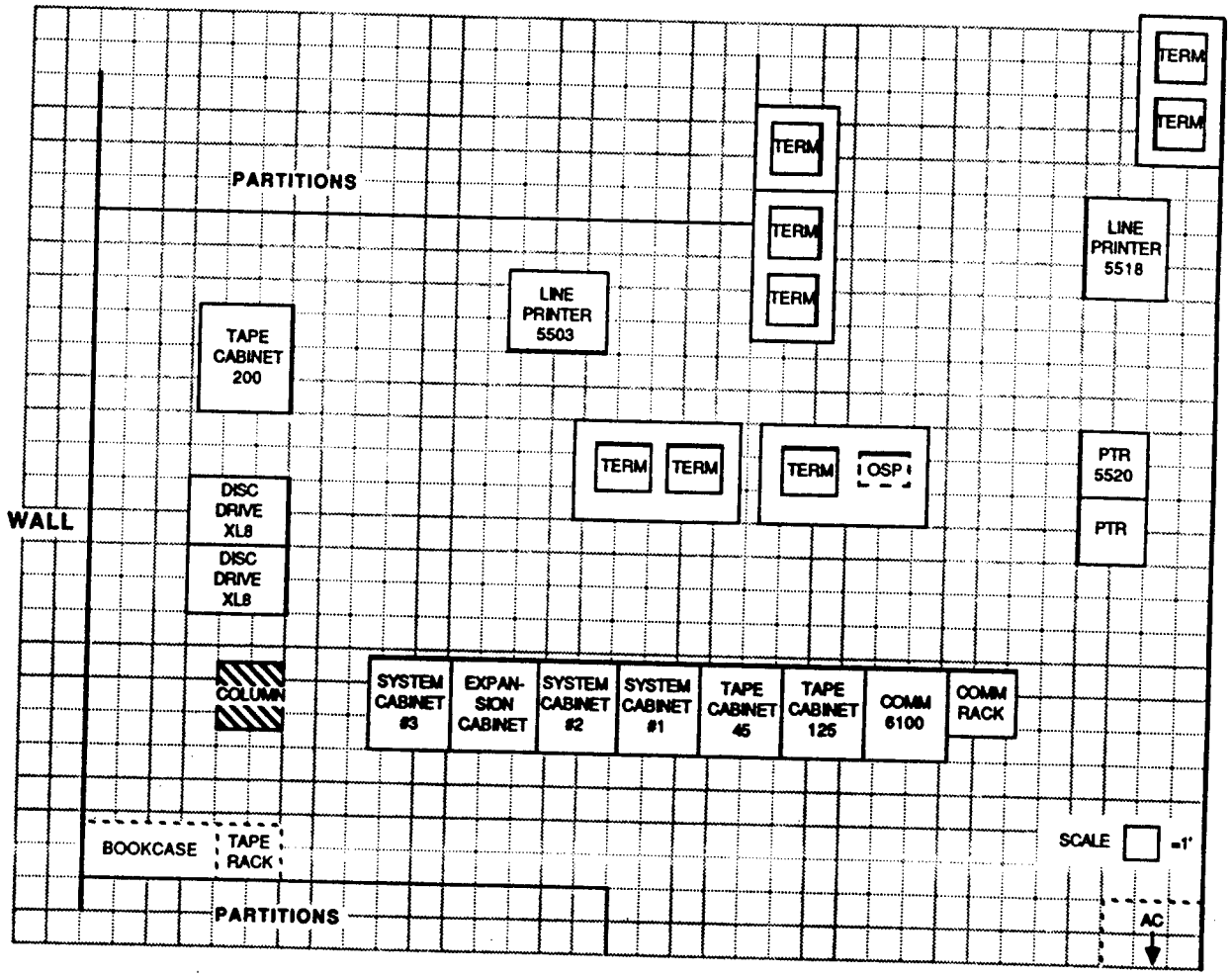


FIGURE 26-1. FAA TECHNICAL CENTER (ASM-160)
MPS SITE # 26 - BEFORE ENHANCEMENT

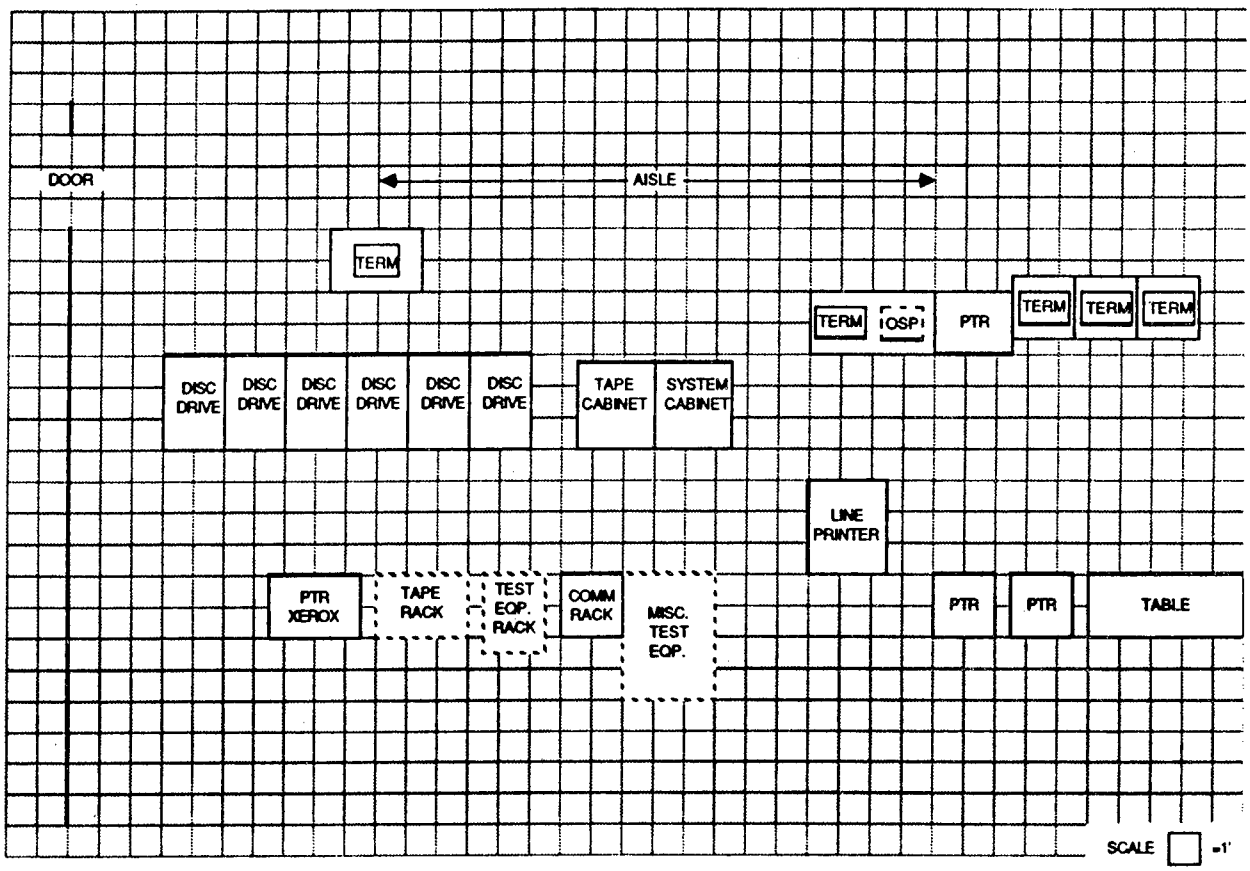


FIGURE 26-2. FAA TECHNICAL CENTER (ASM-160)
MPS SITE # 26 - AFTER ENHANCEMENT

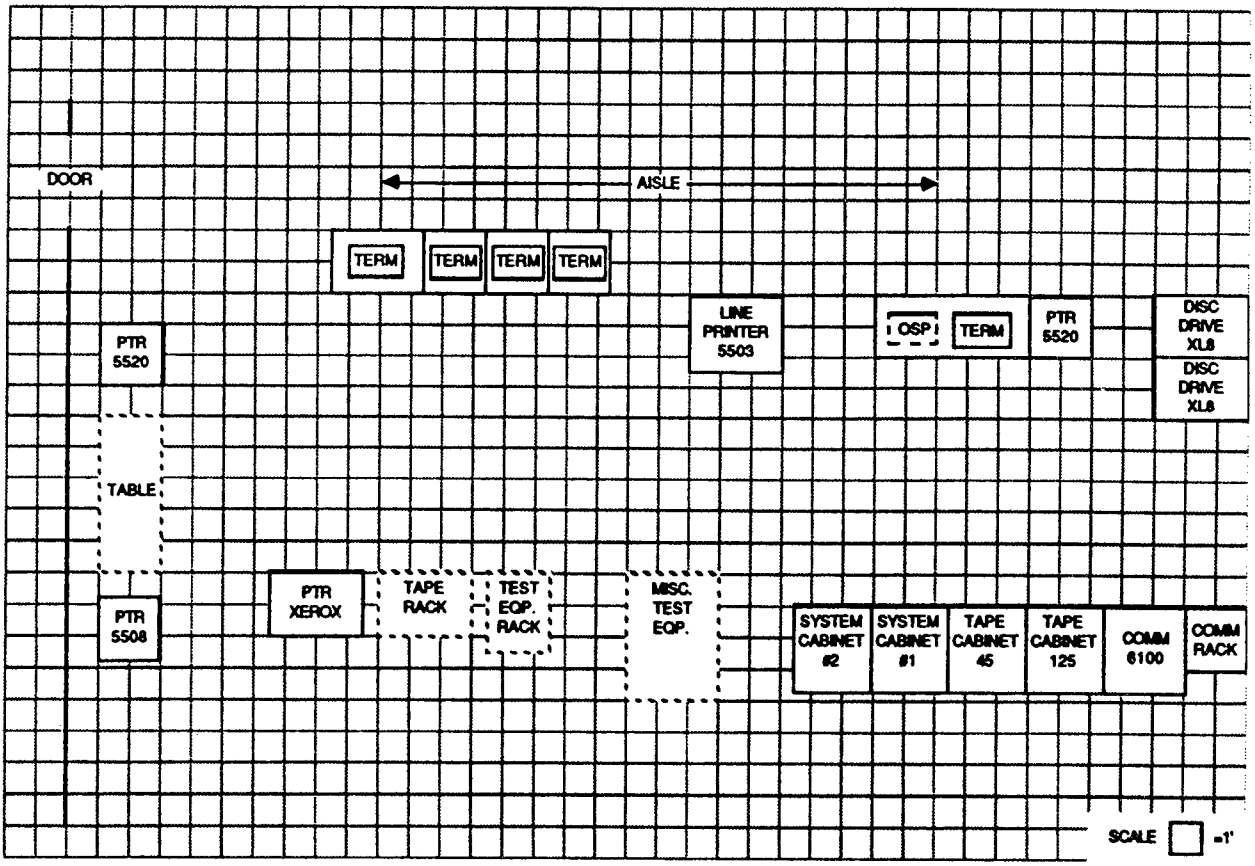


FIGURE 27-1. MIKE MONRONEY AERONAUTICAL CENTER (AAC-940)
MPS SITE # 27 - BEFORE ENHANCEMENT

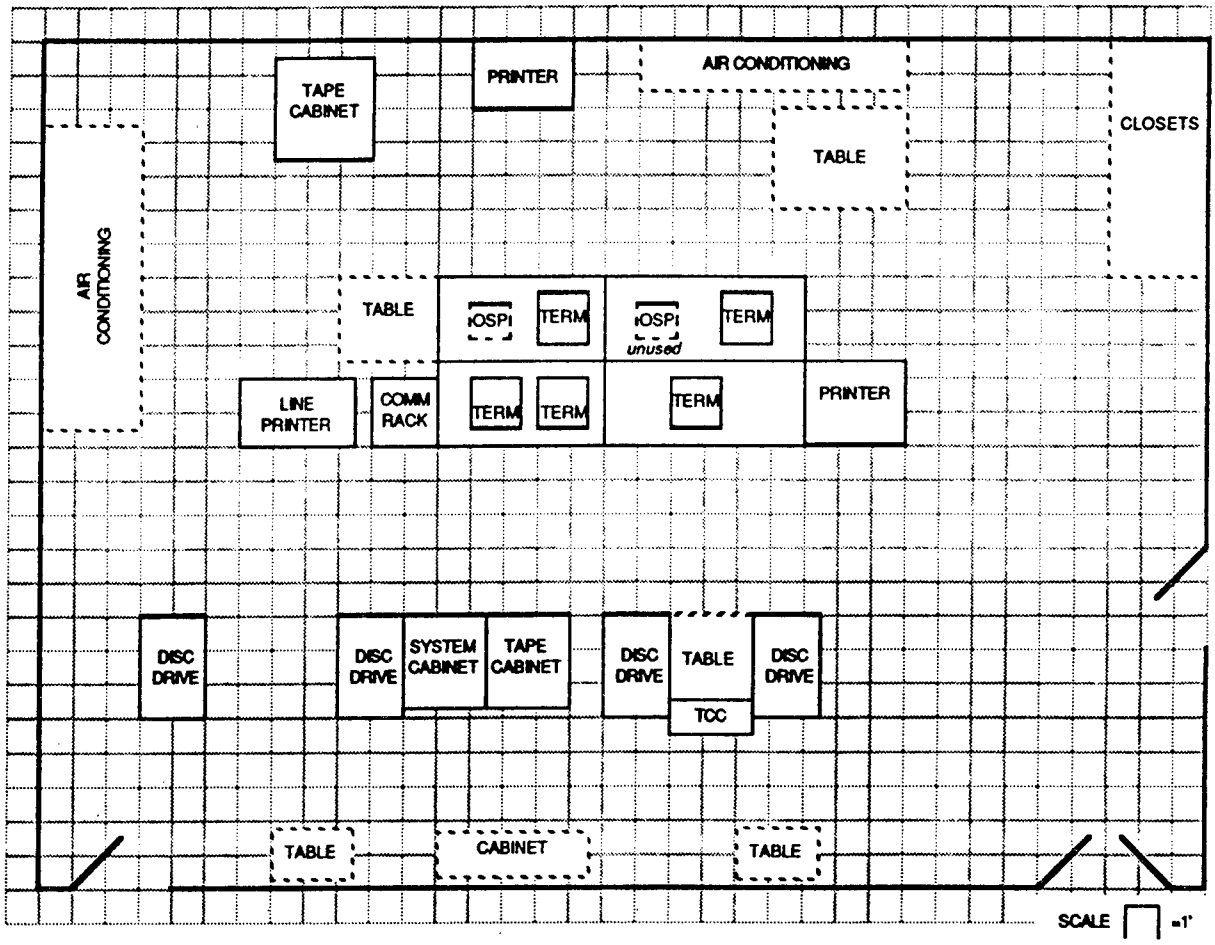


FIGURE 27-2. MIKE MONRONEY AERONAUTICAL CENTER (AAC-940)
MPS SITE # 27 - AFTER ENHANCEMENT

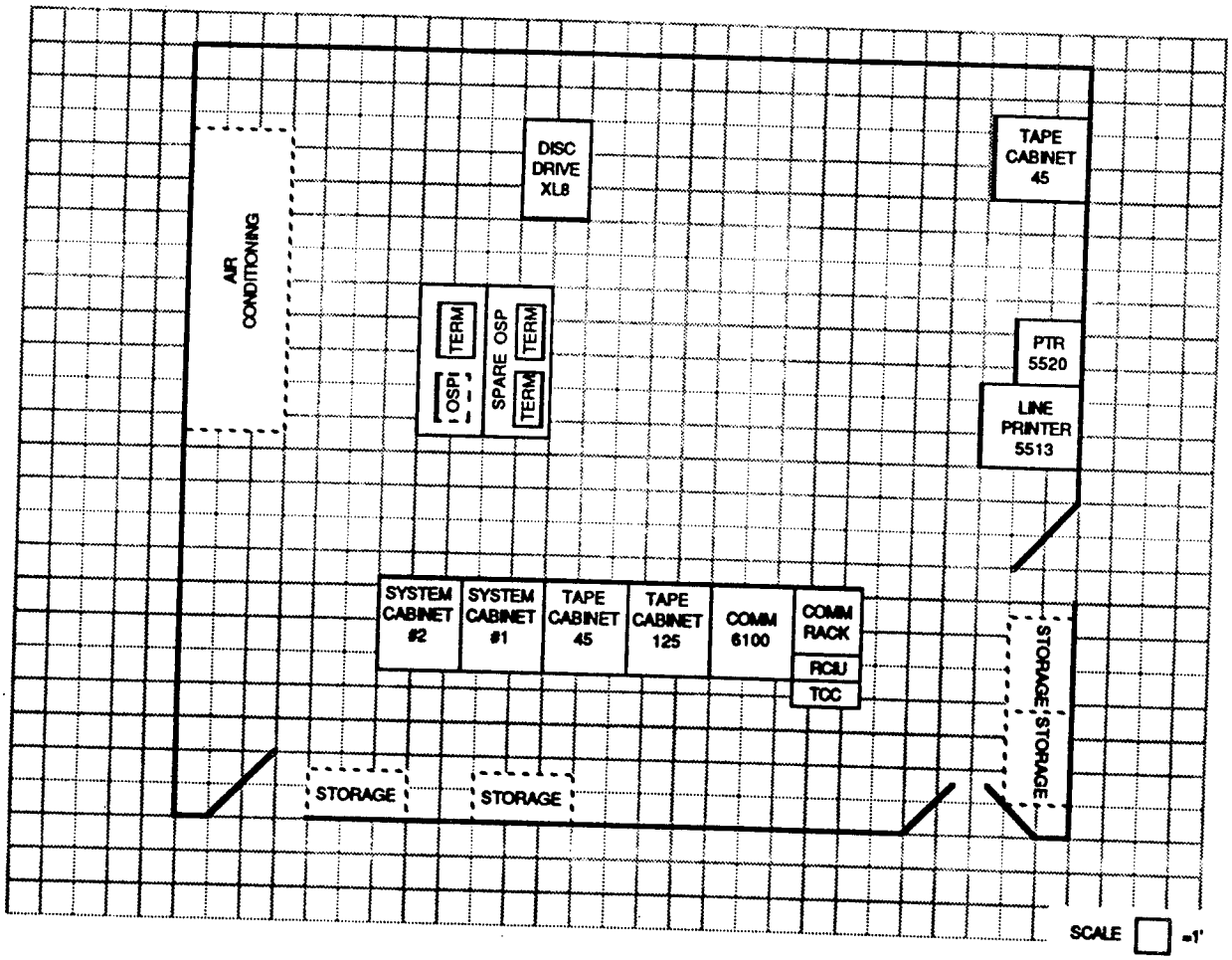


FIGURE 28-1. MIKE MONRONEY AERONAUTICAL CENTER (ASM-150)
MPS SITE # 28 - BEFORE ENHANCEMENT

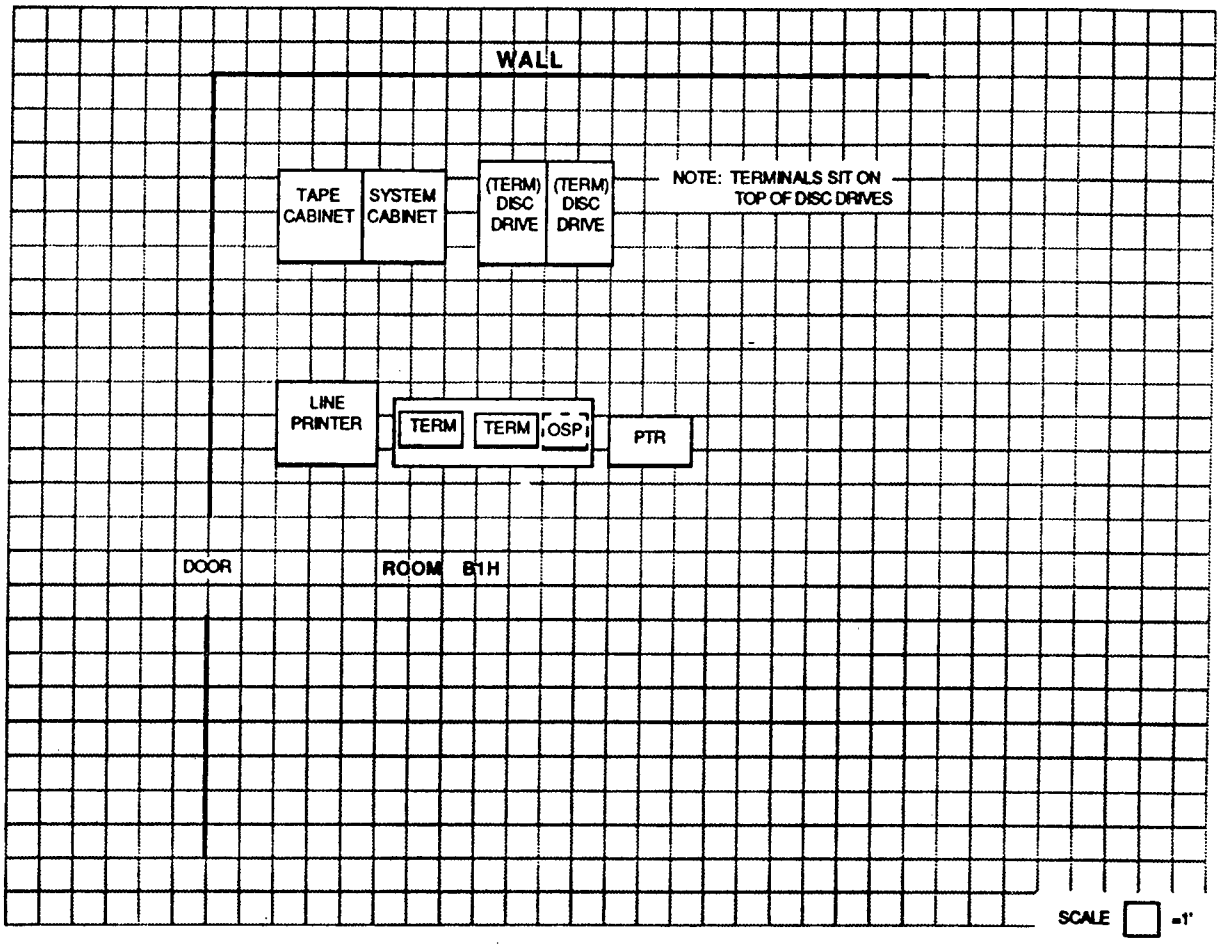


FIGURE 28-2. MIKE MONRONEY AERONAUTICAL CENTER (ASM-150)
MPS SITE # 28 - AFTER ENHANCEMENT

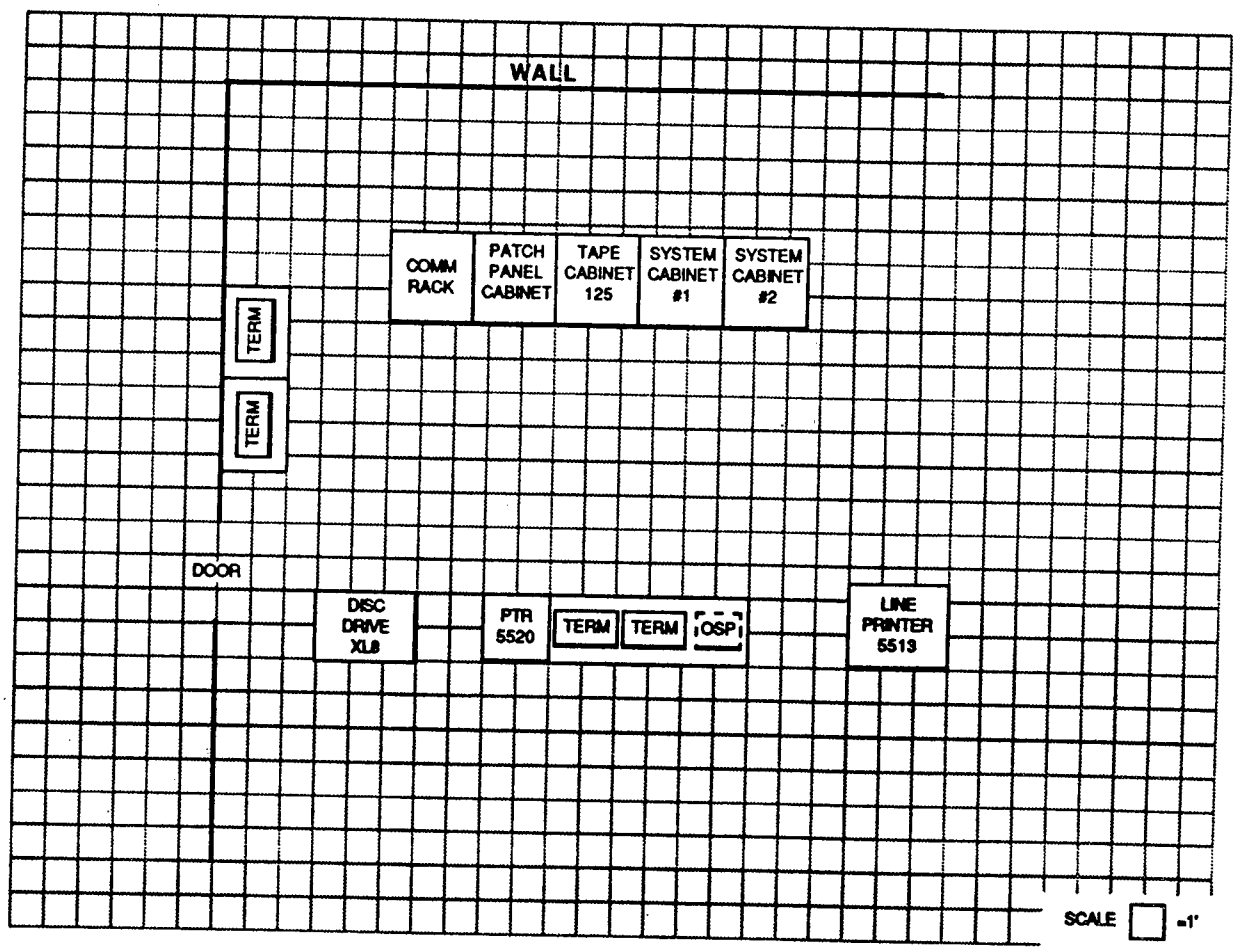


FIGURE 29-1. DALLAS/FT. WORTH MPS SITE # 29
BEFORE ENHANCEMENT

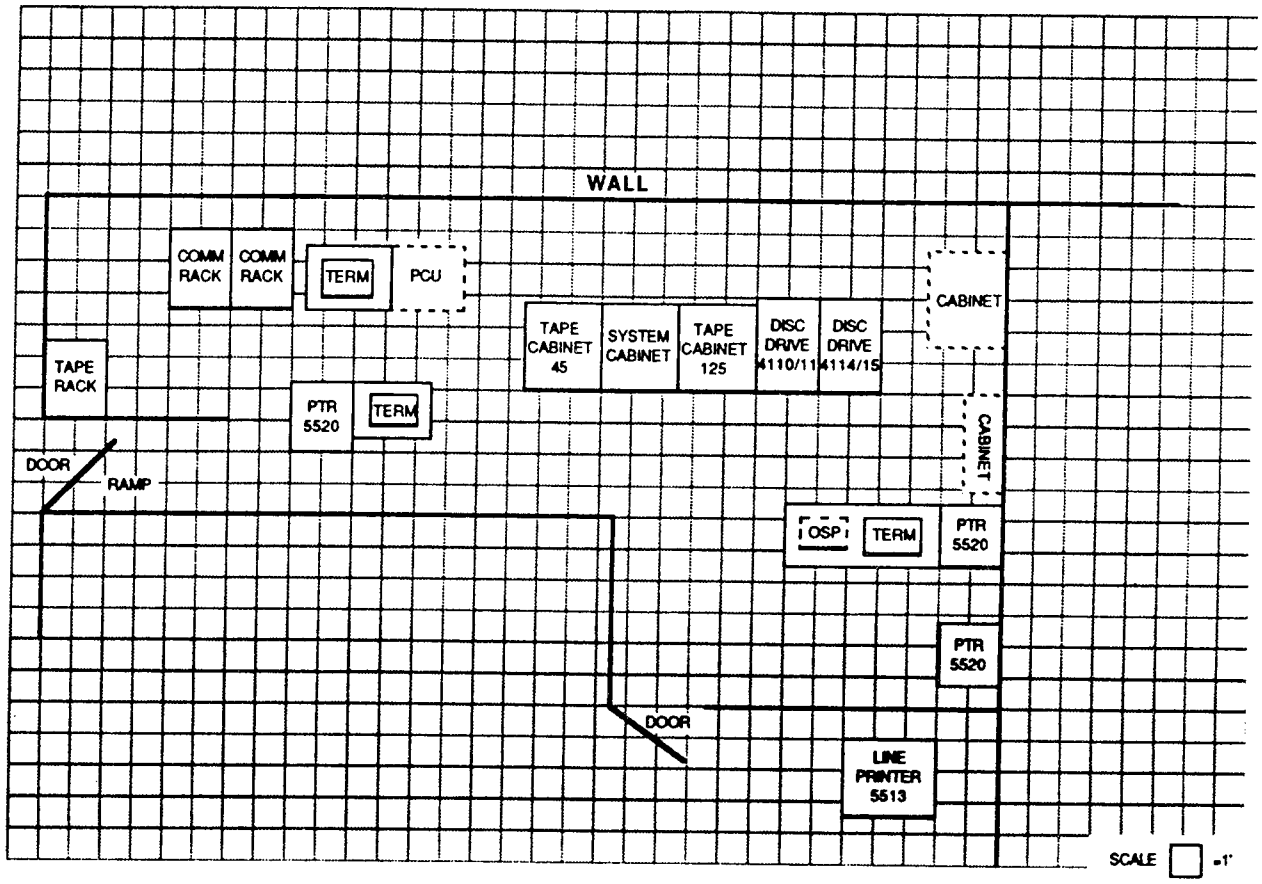


FIGURE 29-2. DALLAS/FT. WORTH MPS SITE # 29
AFTER ENHANCEMENT

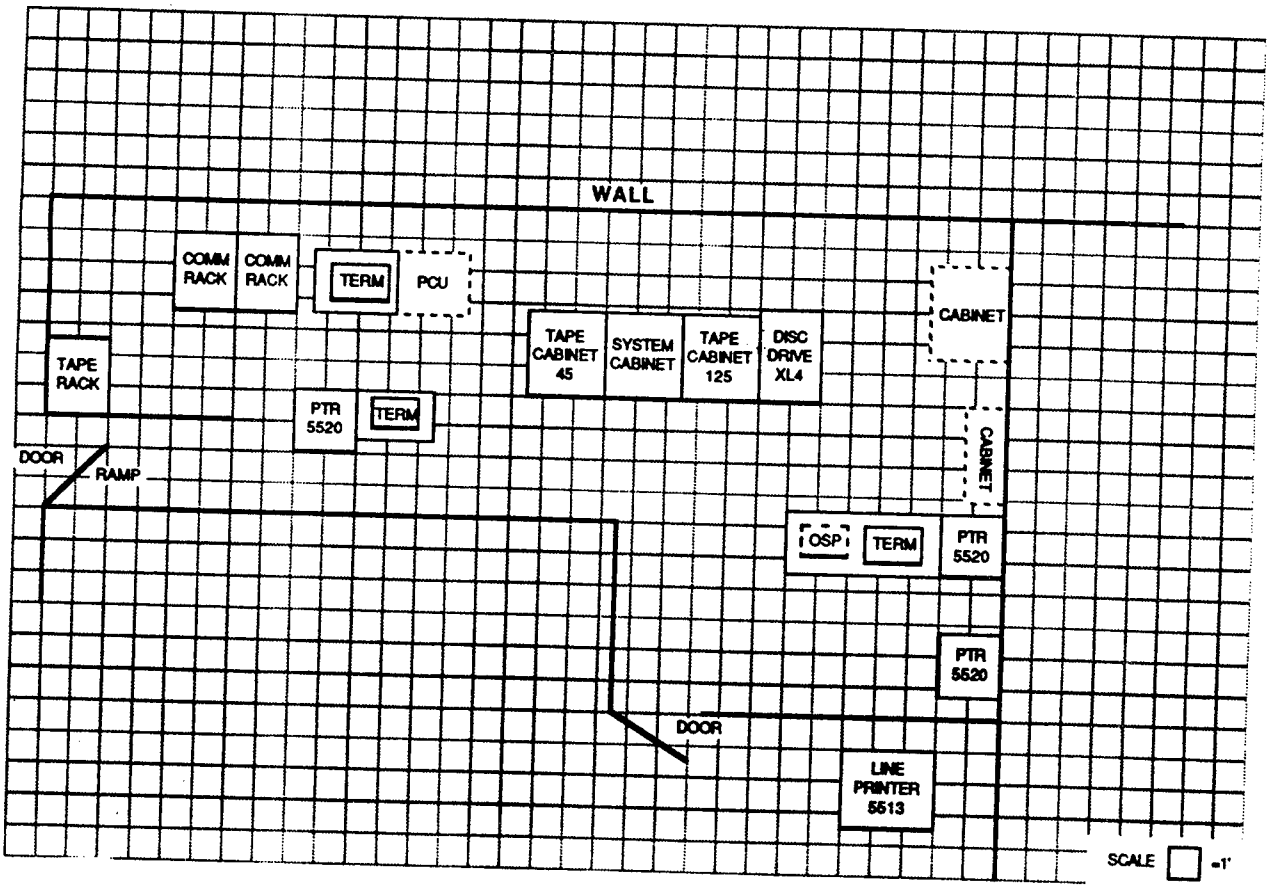


FIGURE 30-1. MEMPHIS MPS SITE # 30 - BEFORE ENHANCEMENT

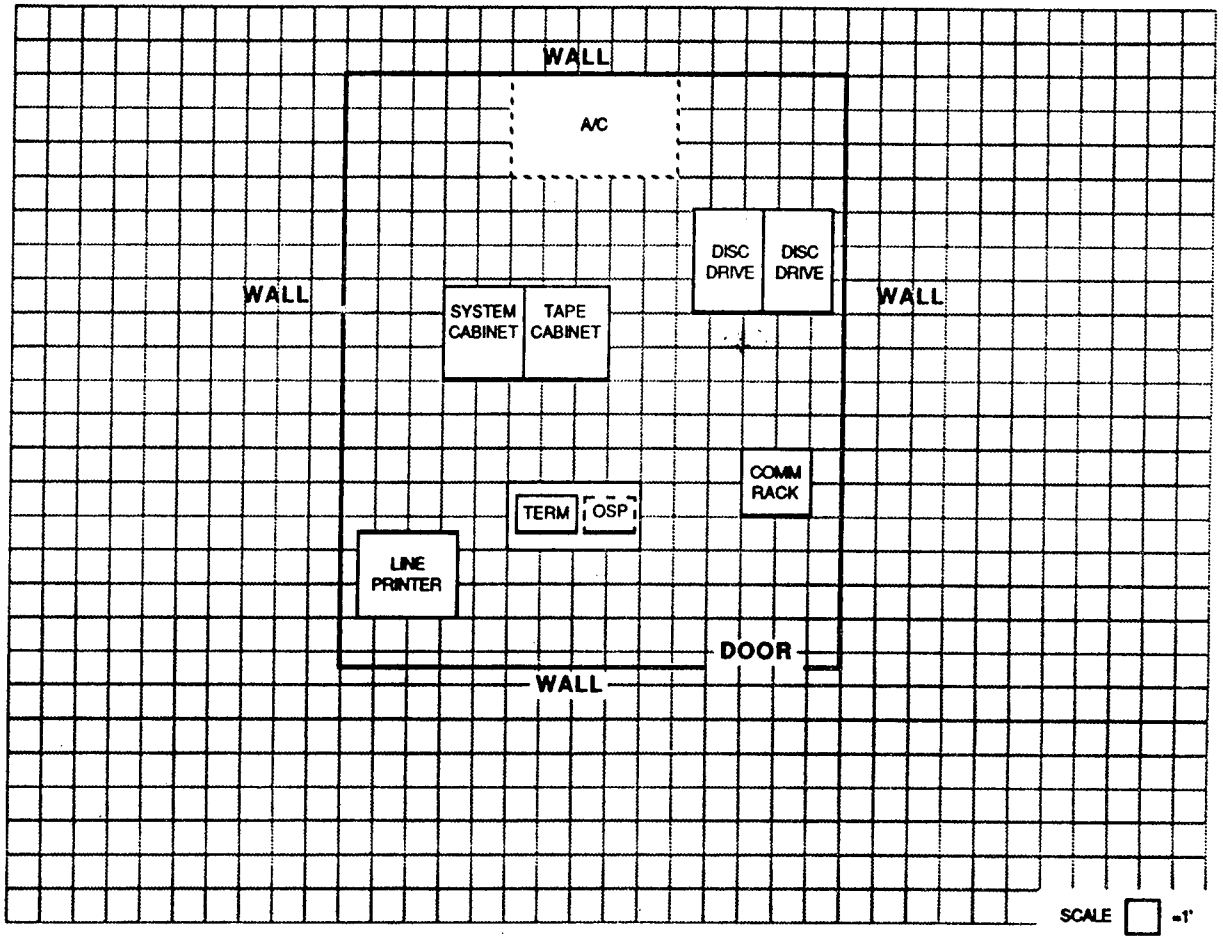


FIGURE 30-2. MEMPHIS MPS SITE # 30 - AFTER ENHANCEMENT

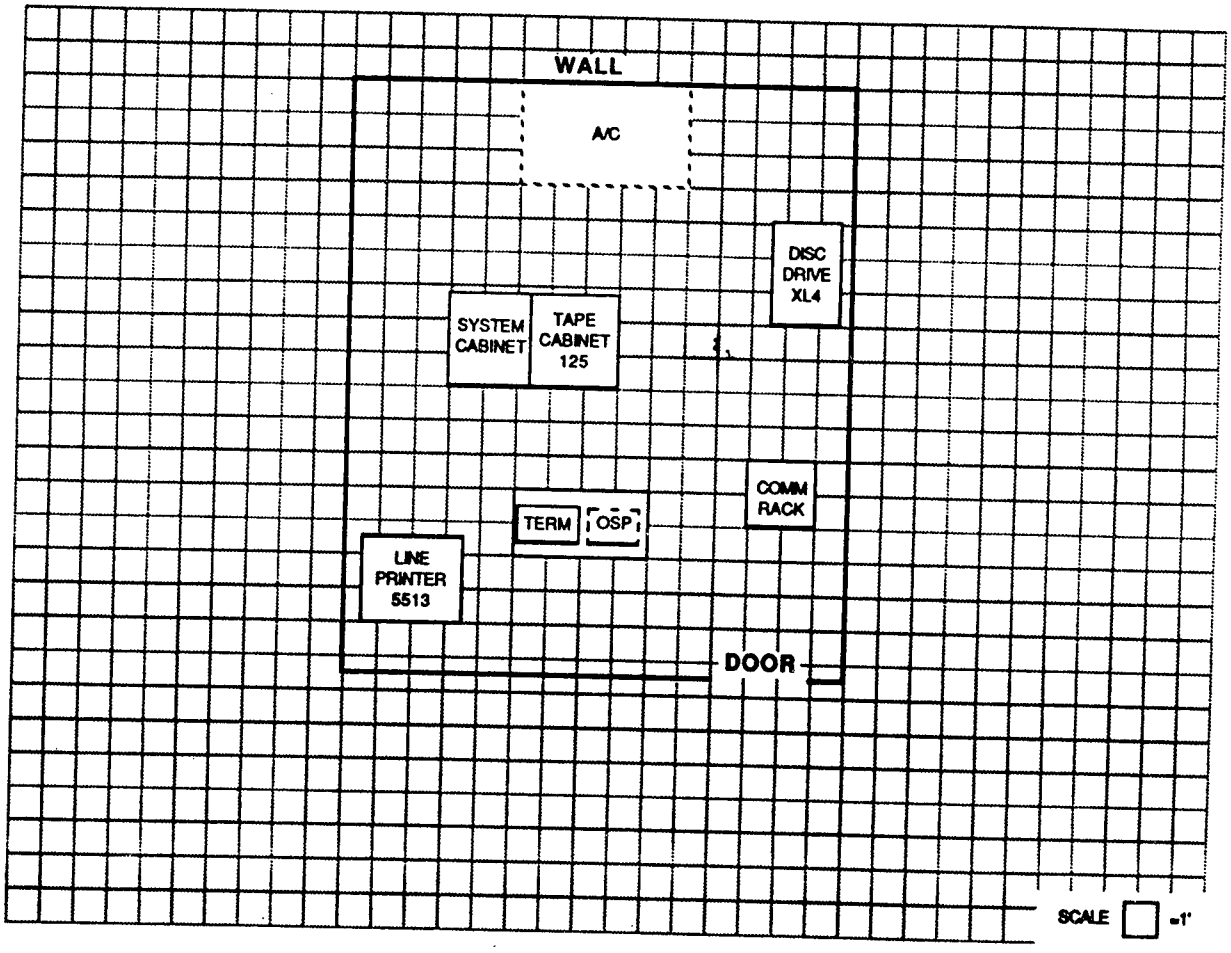


FIGURE 31-1. NORFOLK MPS SITE # 31 - BEFORE ENHANCEMENT

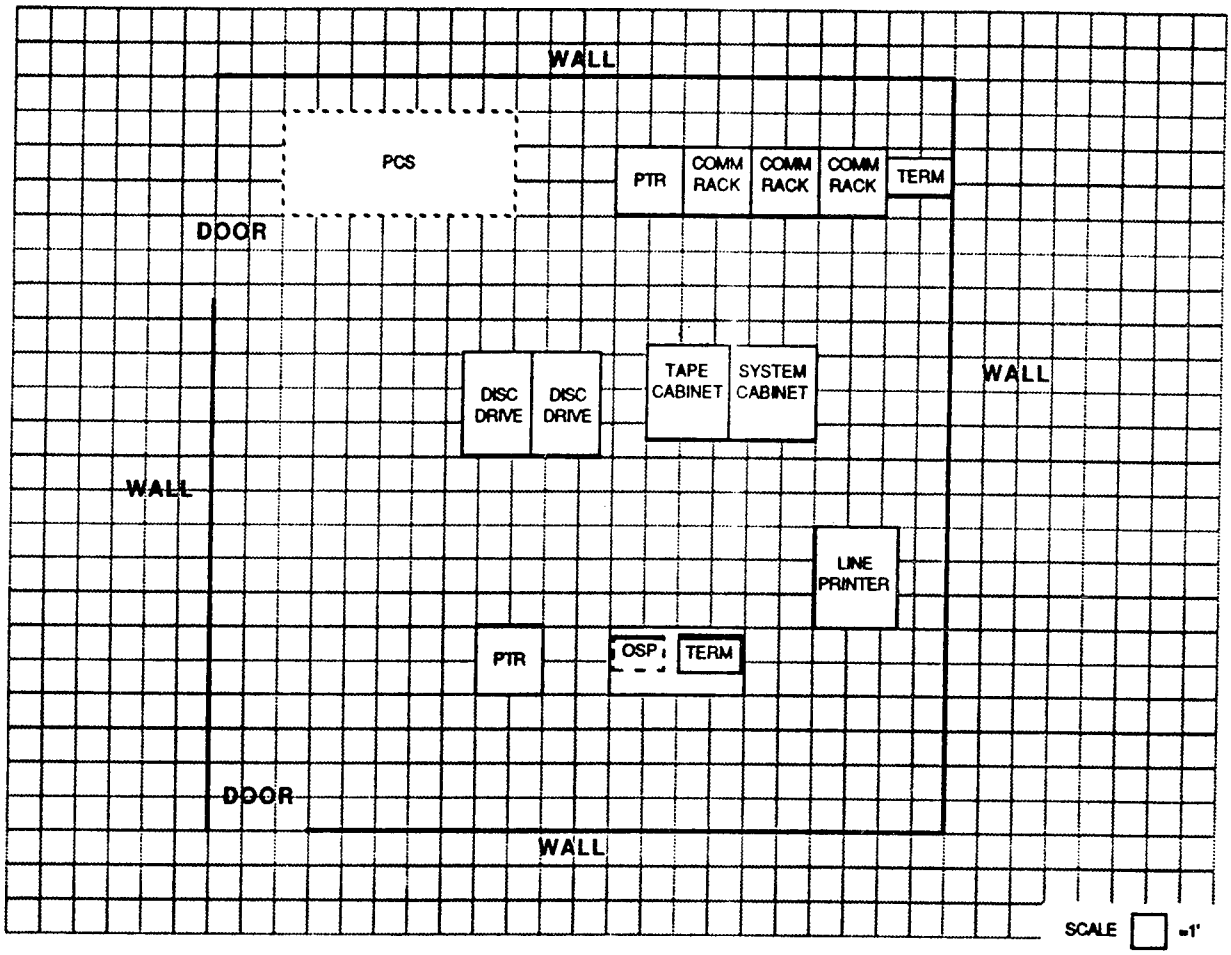


FIGURE 31-2. NORFOLK MPS SITE # 31 - AFTER ENHANCEMENT

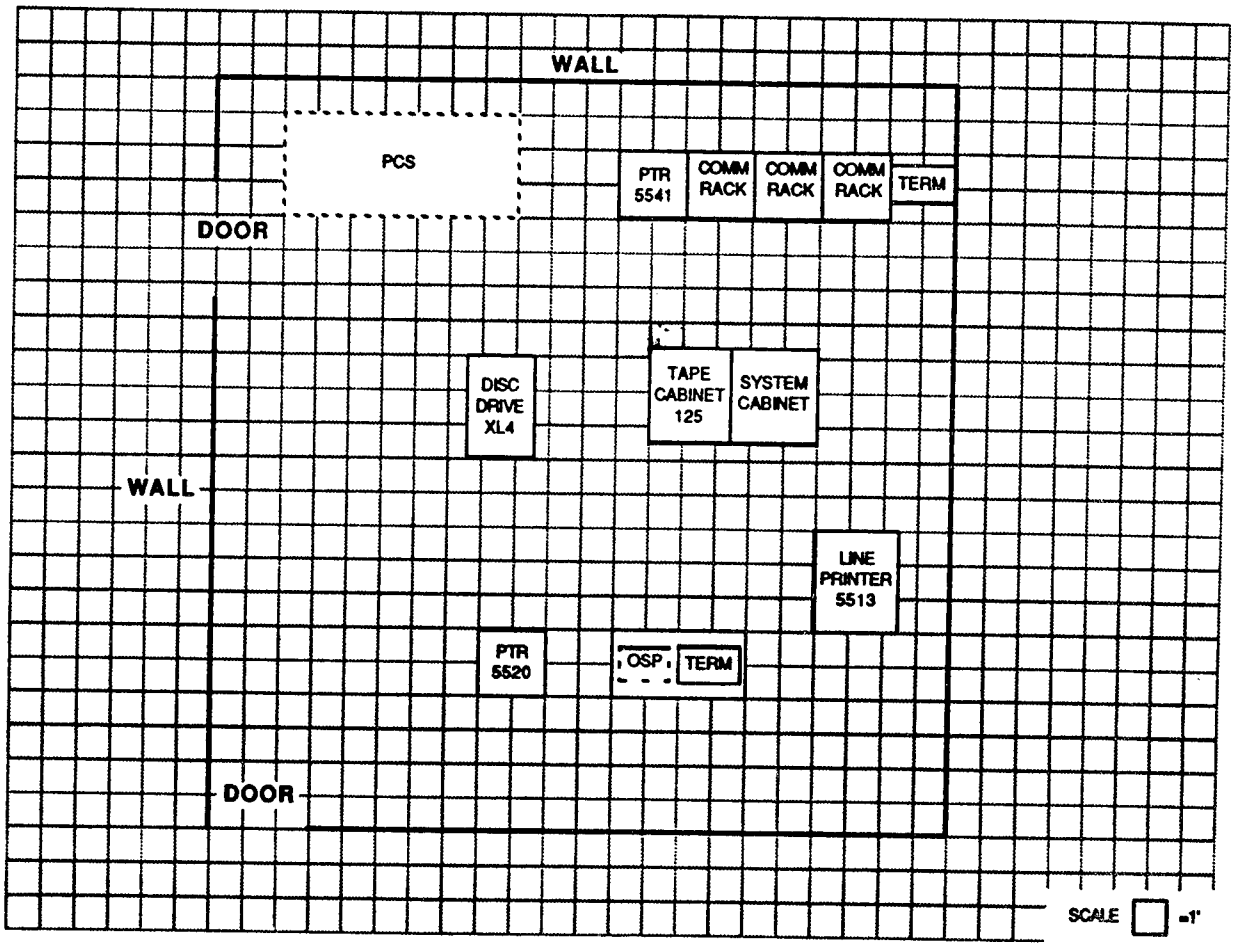


FIGURE 32-1. WINDSOR LOCKS MPS SITE # 32 - BEFORE ENHANCEMENT

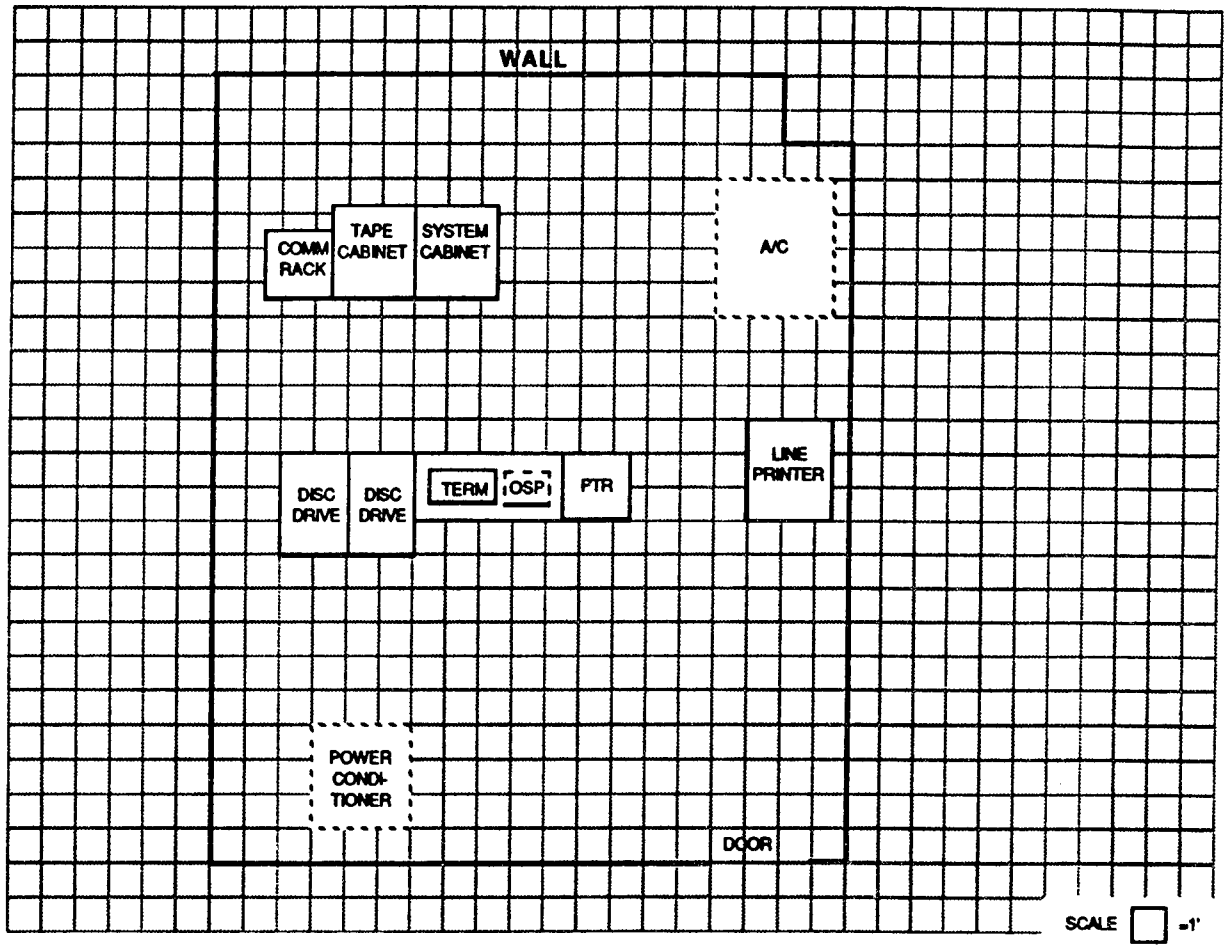


FIGURE 32-2. WINDSOR LOCKS MPS SITE # 32 - AFTER ENHANCEMENT

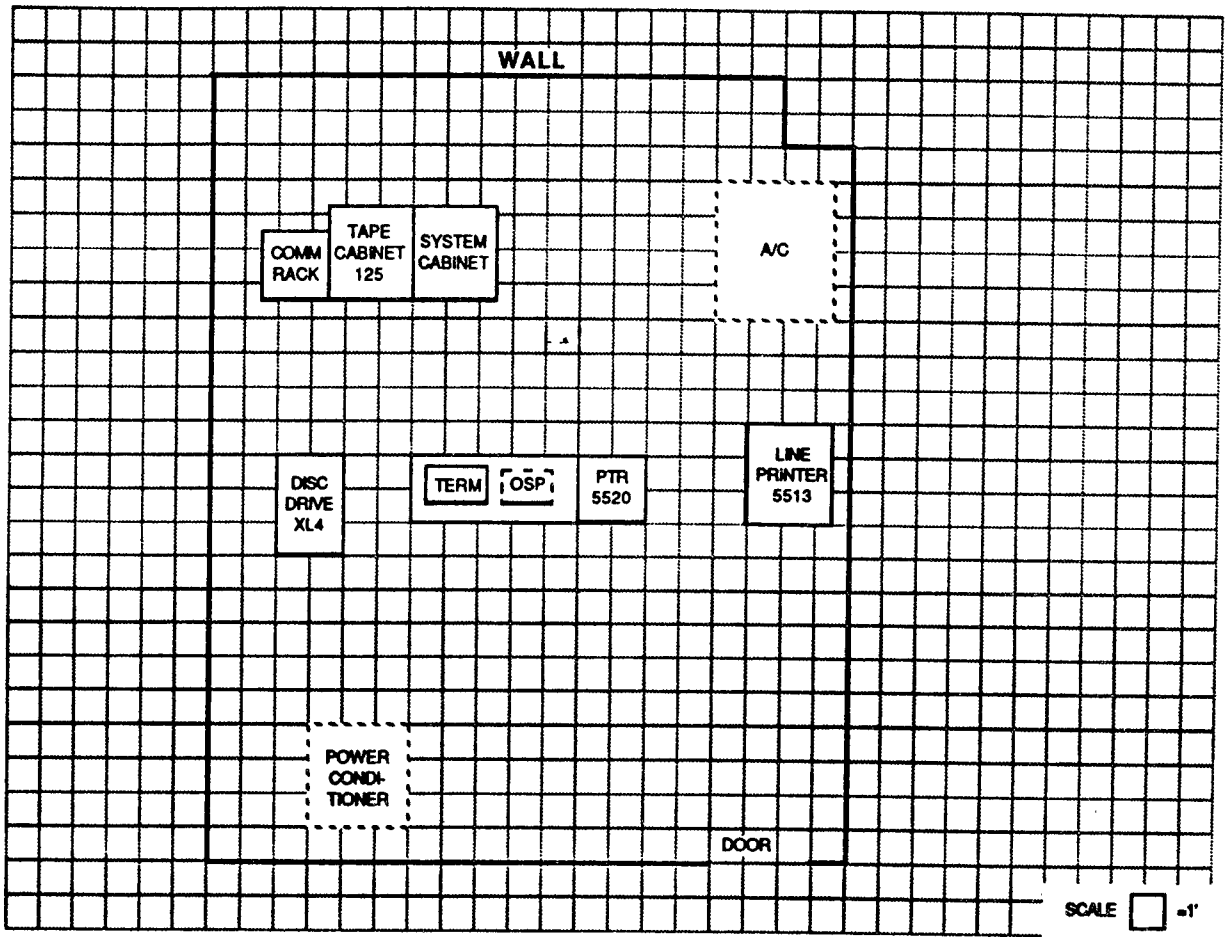


FIGURE 33-1. DETROIT MPS SITE # 33 - BEFORE ENHANCEMENT

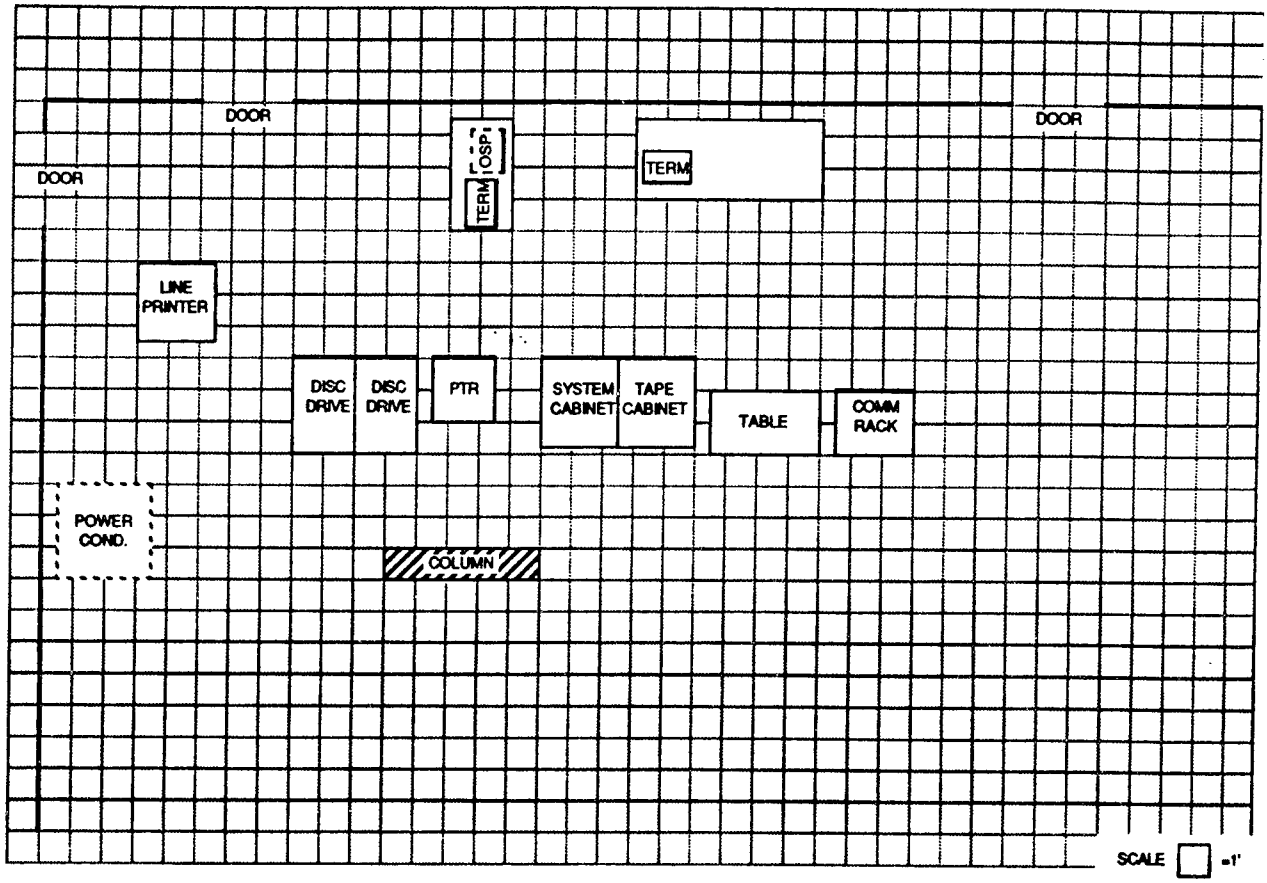


FIGURE 33-2. DETROIT MPS SITE # 33 - AFTER ENHANCEMENT

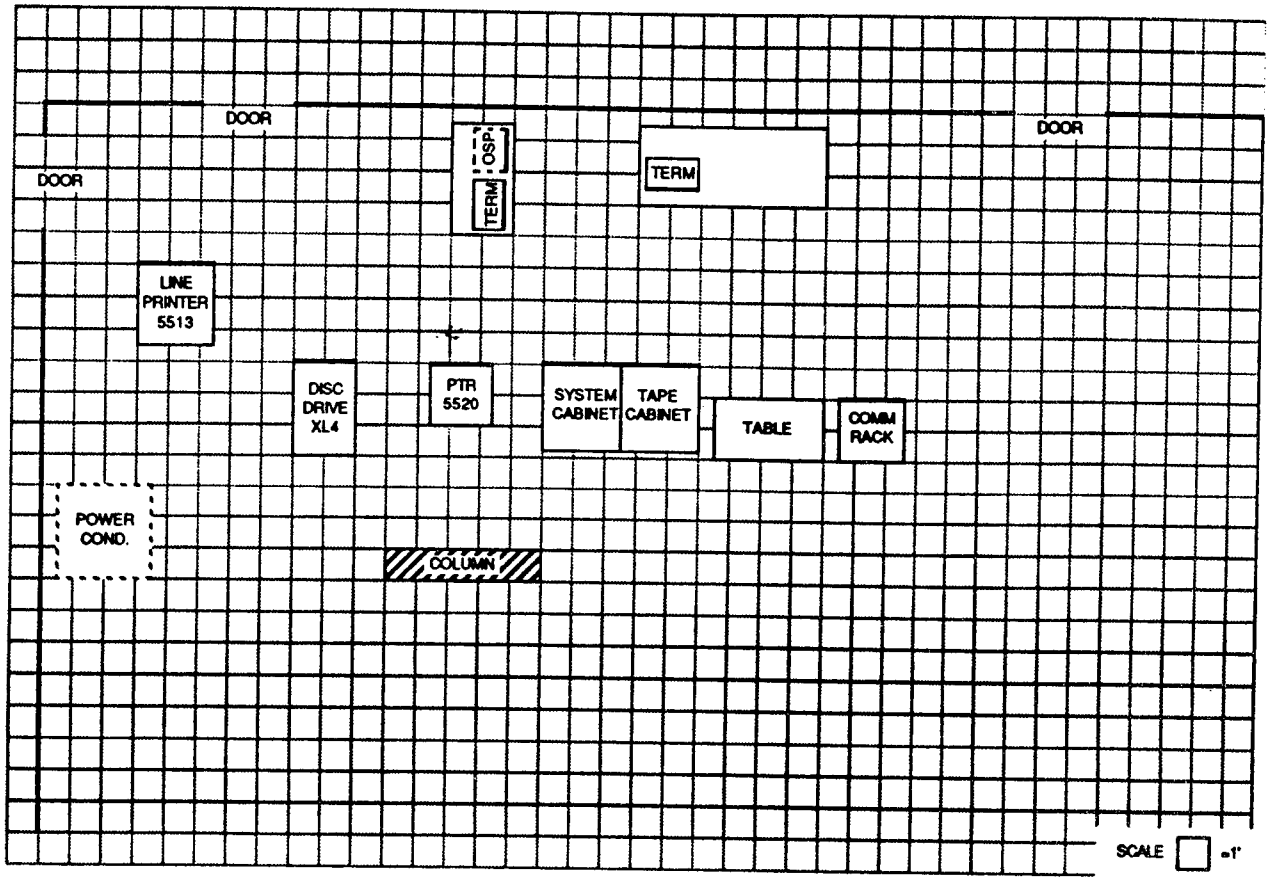


FIGURE 34-1. ST. LOUIS MPS SITE # 34 - BEFORE ENHANCEMENT

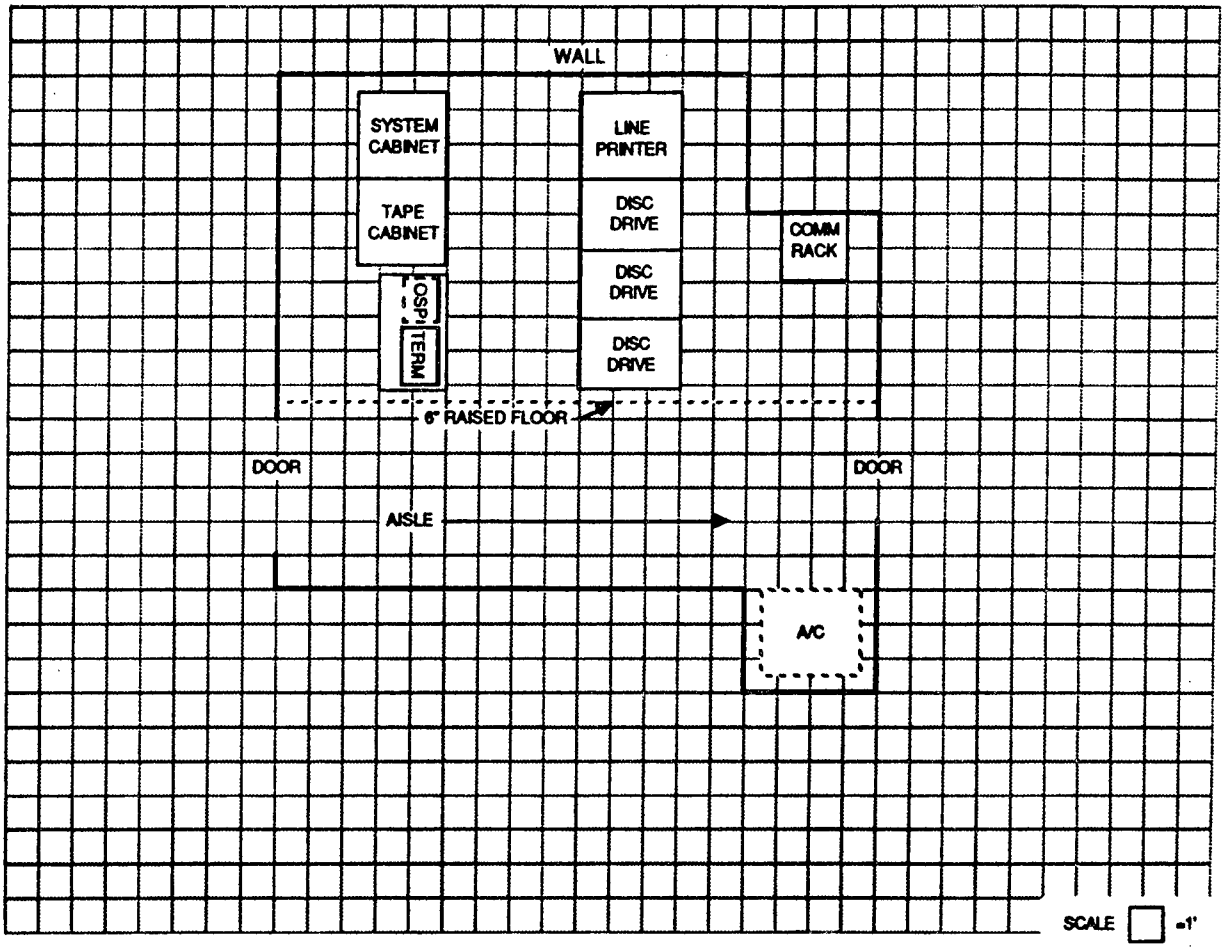


FIGURE 34-2. ST. LOUIS MPS SITE # 34 - AFTER ENHANCEMENT

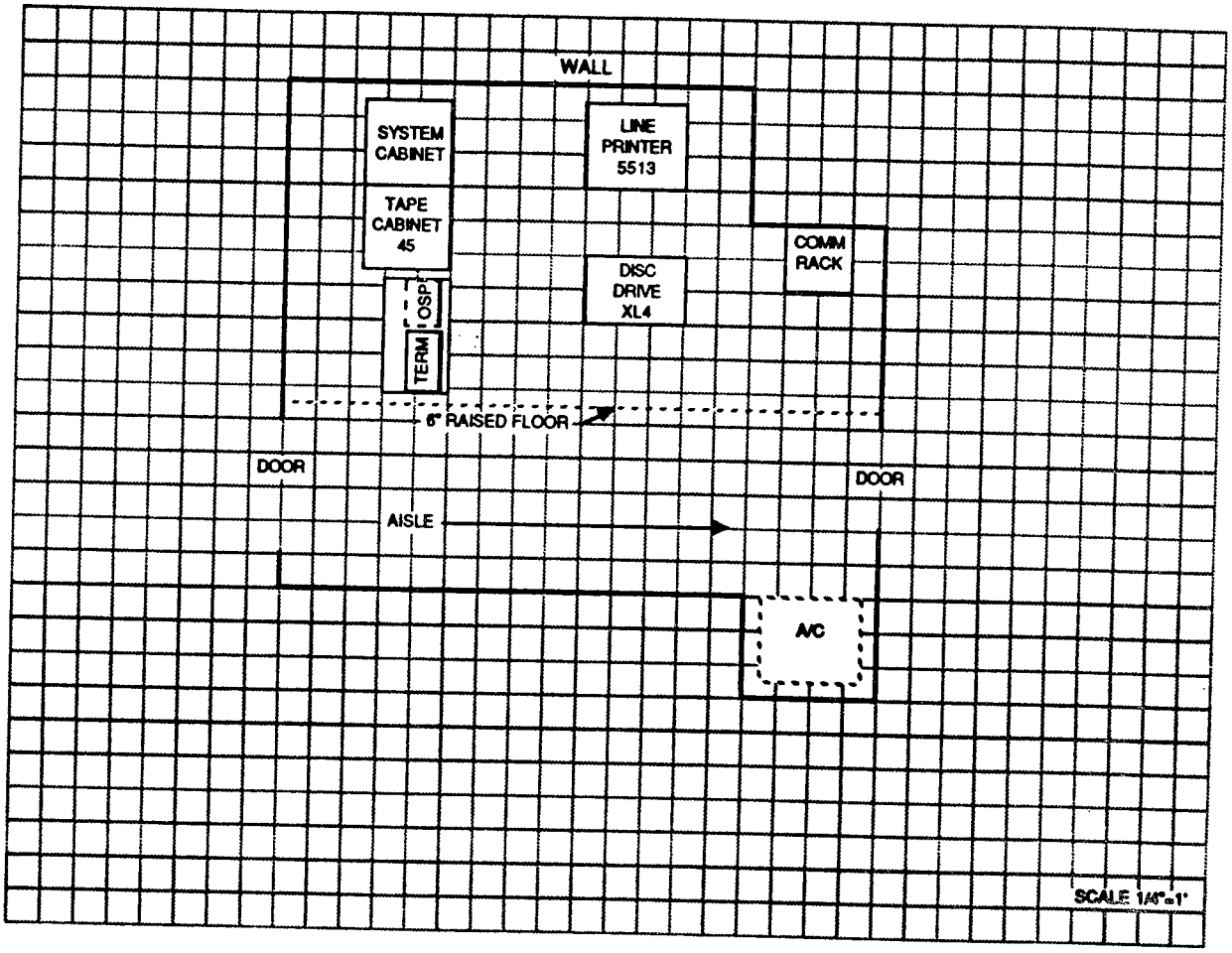


FIGURE 35-1. WICHITA MPS SITE # 35 - BEFORE ENHANCEMENT

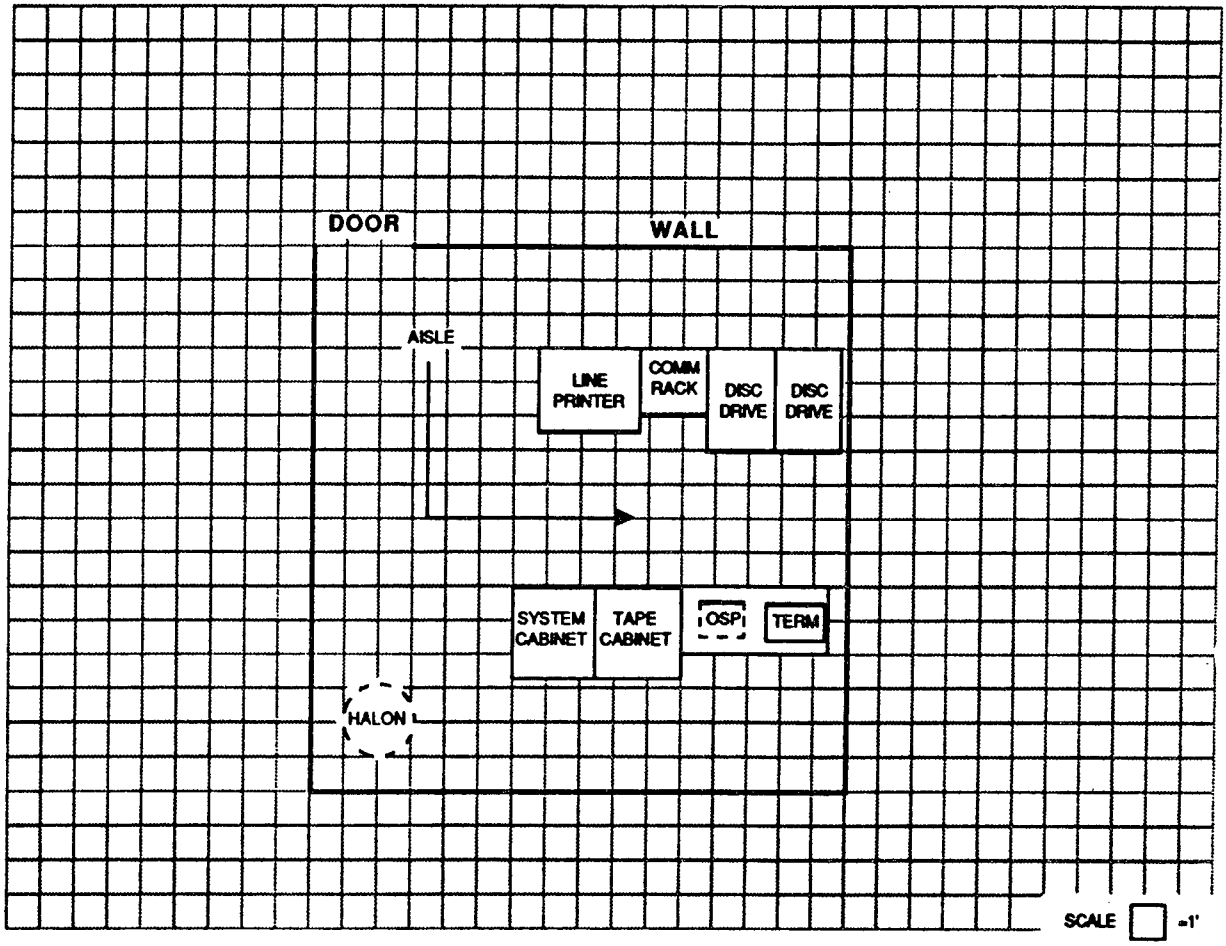


FIGURE 35-2. WICHITA MPS SITE # 35 - AFTER ENHANCEMENT

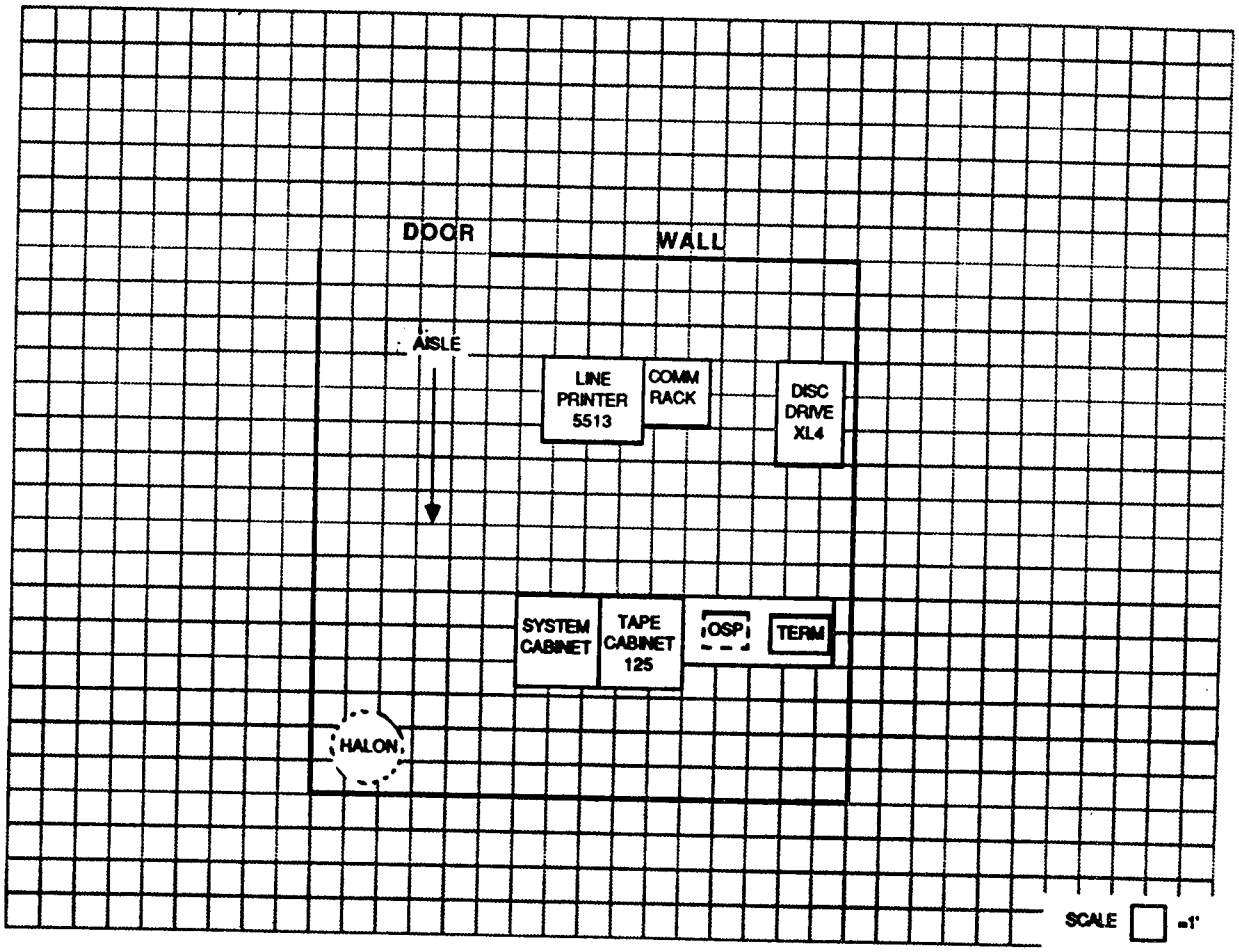


FIGURE 36-1. DENVER MPS SITE # 36 - BEFORE ENHANCEMENT

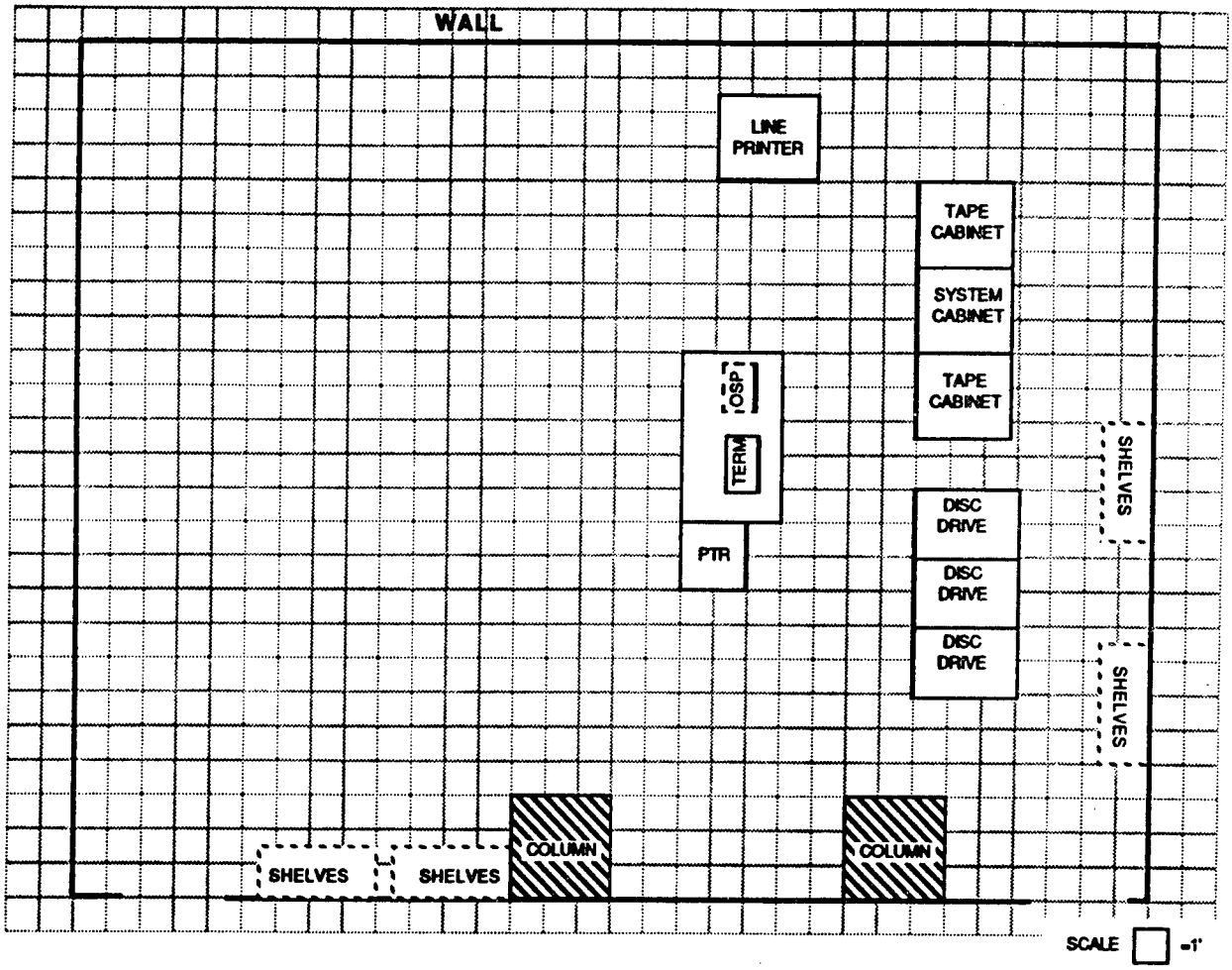


FIGURE 36-2. DENVER MPS SITE # 36 - AFTER ENHANCEMENT

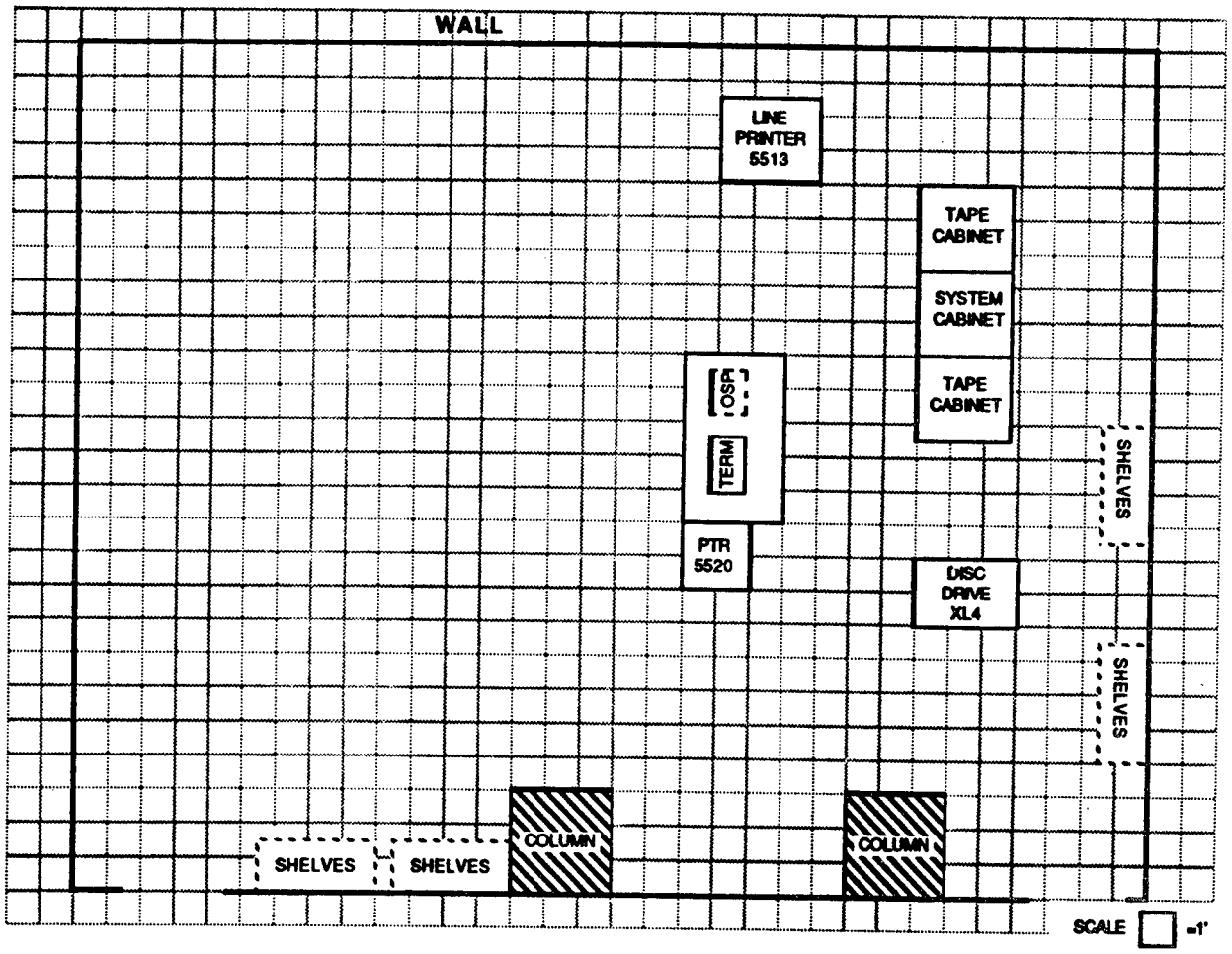


FIGURE 37-1. EDWARDS AFB MPS SITE # 37 - BEFORE ENHANCEMENT

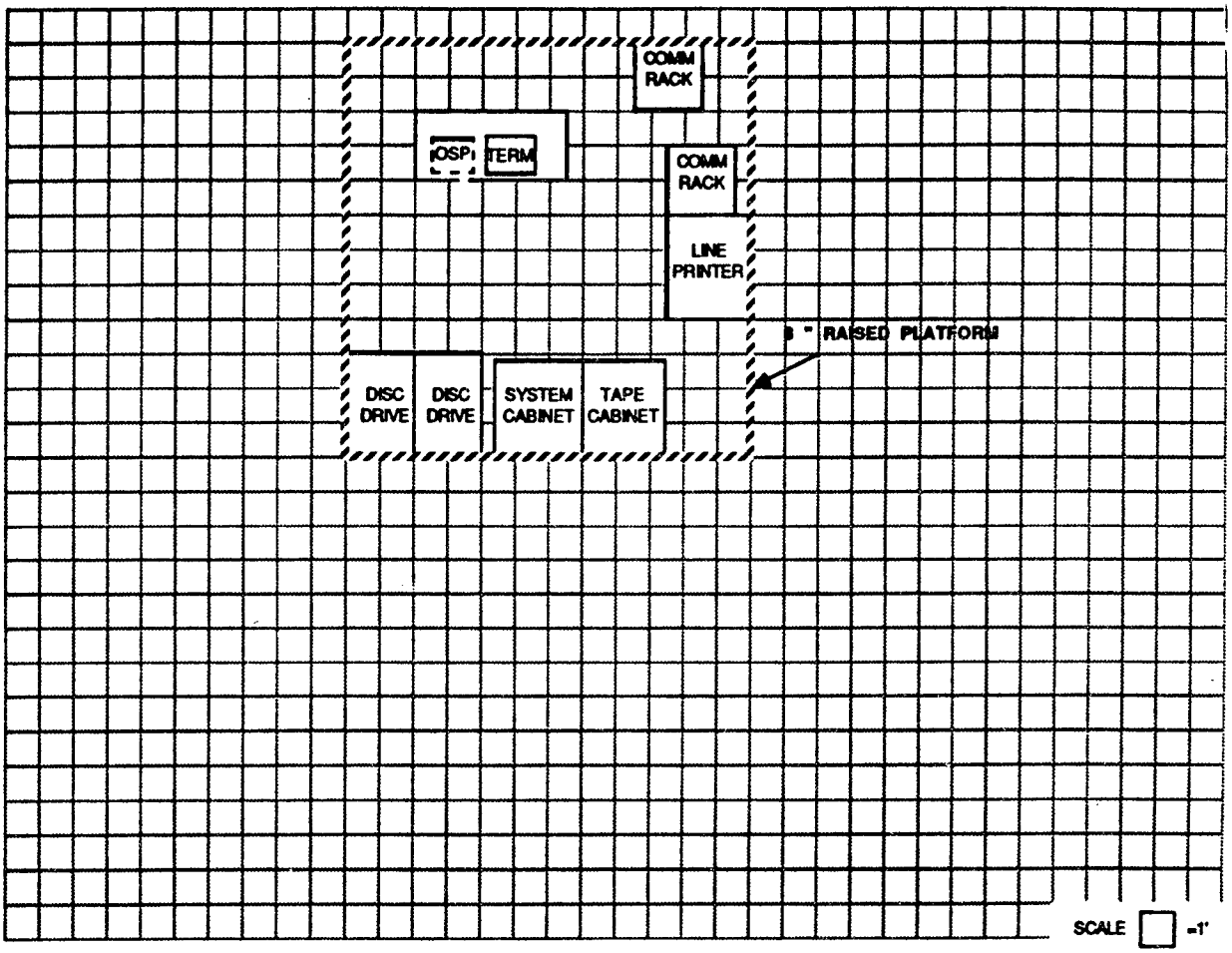


FIGURE 37-2. EDWARDS AFB MPS SITE # 37 - AFTER ENHANCEMENT

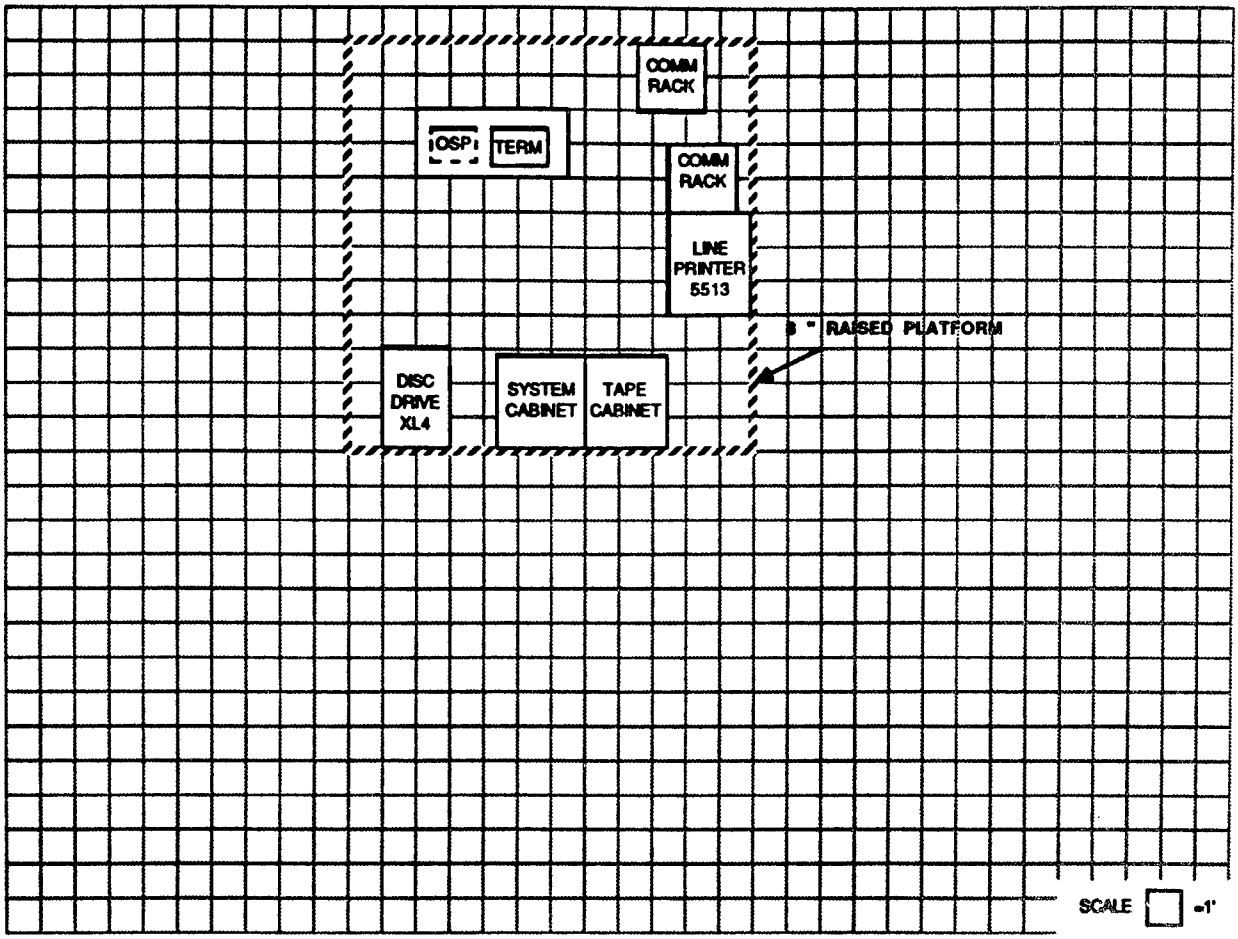


FIGURE 38-1. FAIRBANKS MPS SITE # 38 - BEFORE ENHANCEMENT

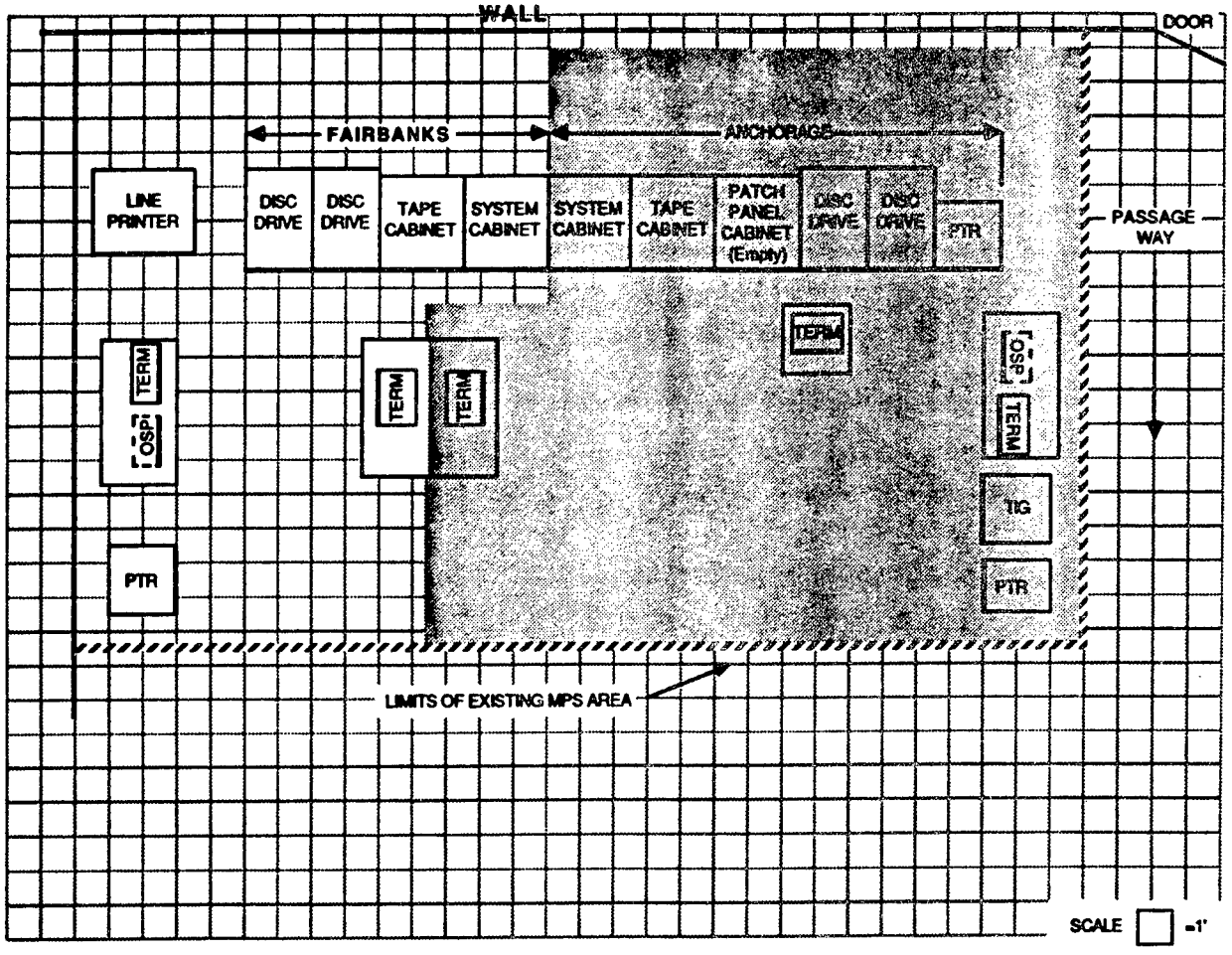
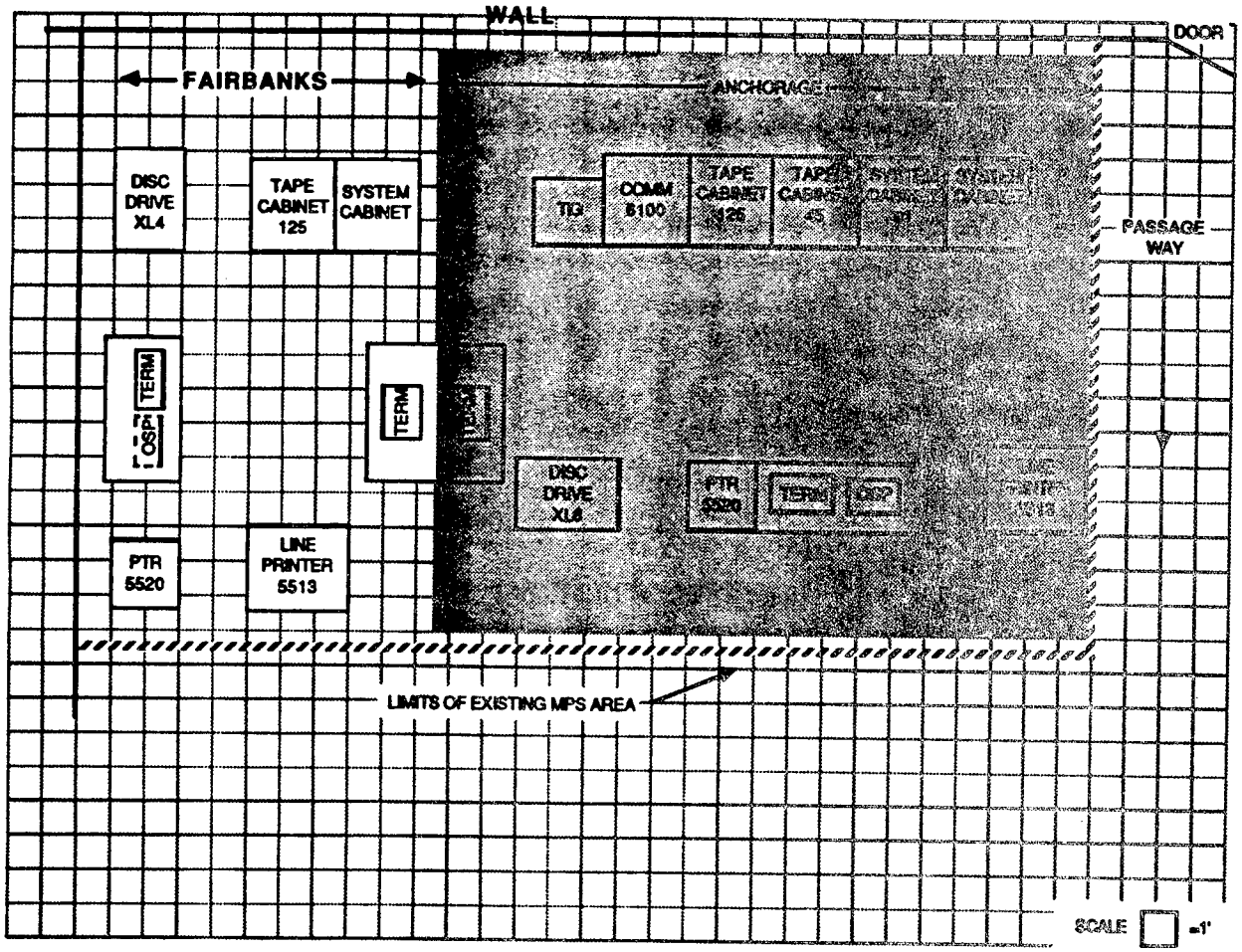


FIGURE 38-2. FAIRBANKS MPS SITE # 38 - AFTER ENHANCEMENT



APPENDIX 4. MPS SYSTEM CABINET BOARD LISTINGS AND LAYOUTS BEFORE AND AFTER MPS ENHANCEMENT

This appendix contains the system cabinet(s) board listings before MPS enhancement and system cabinet(s) board layouts after MPS enhancement for each MPS site. Each "before" board listing reflects information gathered during MPS site surveys conducted by ACT-110 from November through December 1987.

FIGURE 1-1. KANSAS CITY MPS SITE # 1 SYSTEM CABINET 1 CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57740	-	2.0 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	57613	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	54740	-	0.5 Mb Memory
CPU 10	54740	-	0.5 Mb Memory
CPU 11	54740	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57613	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	54740	-	0.5 Mb Memory
CPU 18	54740	-	0.5 Mb Memory
CPU 19	54740	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	57613	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	54740	-	0.5 Mb Memory
CPU 26	54740	-	0.5 Mb Memory
CPU 27	54740	-	0.5 Mb Memory
CPU 28	57740	-	2.0 Mb Memory
CPU 29	54770	-	(MCB) Memory Control Board
CPU 30	54760	-	(IPU) Instruction Processor Unit
CPU 31	57613	-	(CCD) Channel Control/DDT
CPU 32	-	-	Open

FIGURE 1-2. KANSAS CITY MPS SITE # 1 SYSTEM CABINET 1
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

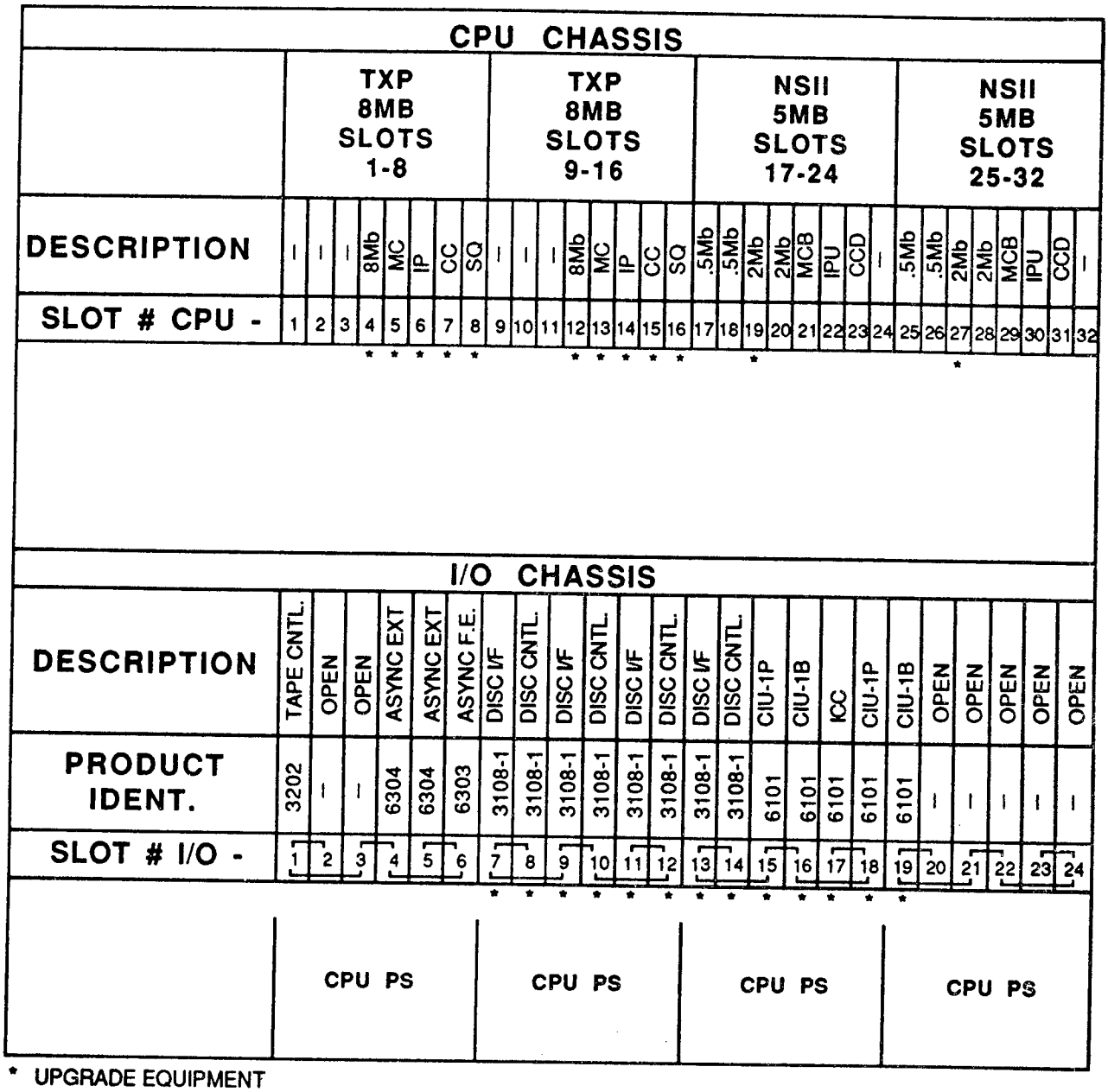
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	-	-	Open
I/O	8	-	-	Open
I/O	9	55820	3106a	Disc Controller SCU I/F
I/O	10	55900	3106a	Disc Controller Channel I/F
I/O	11	55930	3106a	Disc Controller SCU I/F
I/O	12	55900	3106a	Disc Controller Channel I/F
I/O	13	53000	6304	Async Extension Board
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	53000	6304	Async Extension Board
I/O	17	53000	6304	Async Extension Board
I/O	18	52990	6303	Async Front End Board
I/O	19	53570	6203	Bit Sync Controller
I/O	20	53570	6203	Bit Sync Controller
I/O	21	58810	6204	Bit Sync Controller
I/O	22	59210	6202	Byte Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 1-3. KANSAS CITY MPS SITE # 1 SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

ALL CPU SLOTS ARE EMPTY -

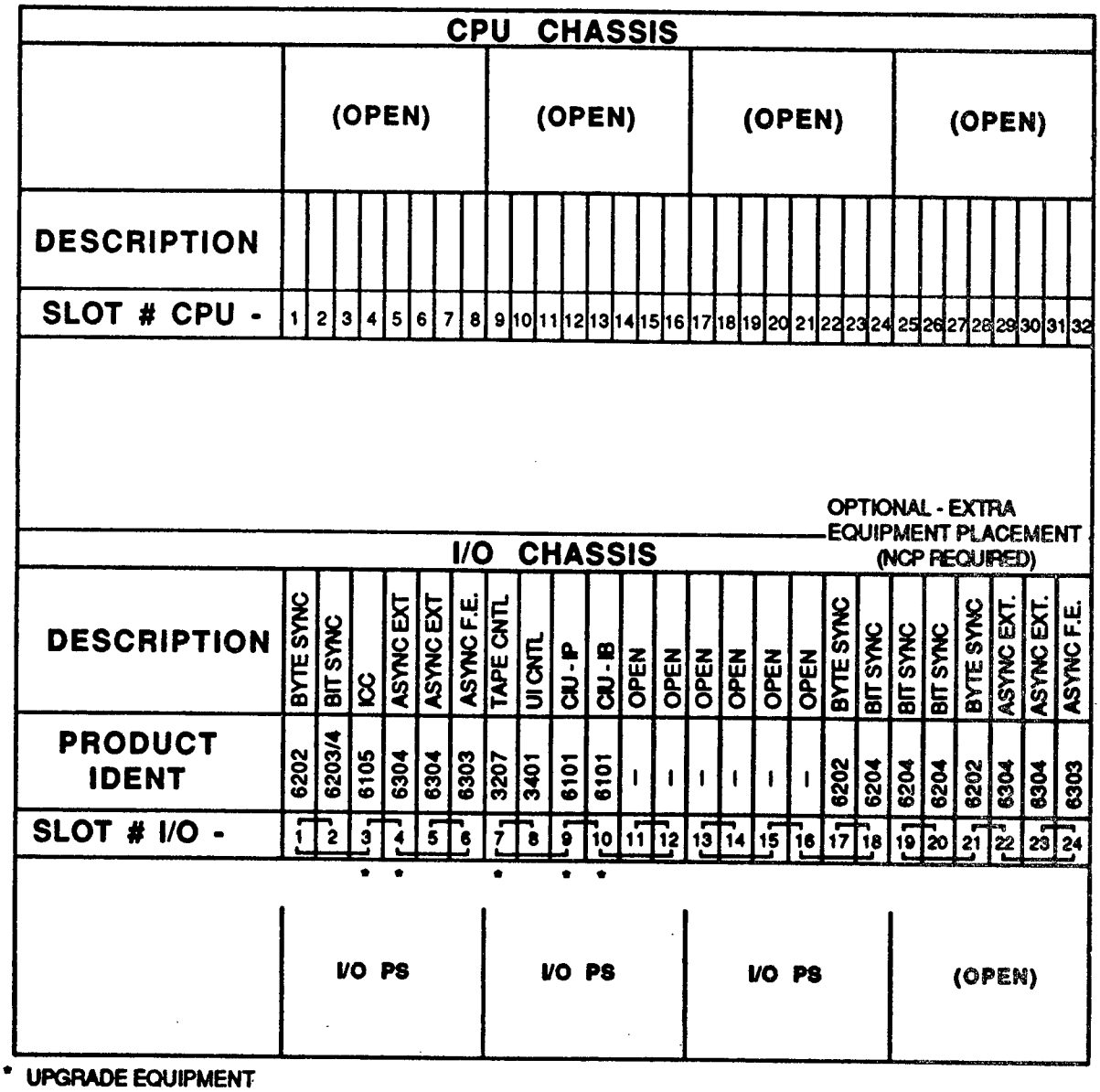
SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	59210	6202	Byte Sync Controller
I/O 2	55840	6202	Byte Sync Controller
I/O 3	58810	6204	Bit Sync Controller
I/O 4	58810	6204	Bit Sync Controller
I/O 5	-	-	Open
I/O 6	-	-	Open
I/O 7	-	-	Open
I/O 8	-	-	Open
I/O 9	-	-	Open
I/O 10	-	-	Open
I/O 11	-	-	Open
I/O 12	51210	3401	UI Controller
I/O 13	40880	3108-1	Disc Interface
I/O 14	40884	3108-1	Disc Controller
I/O 15	40880	3108-1	Disc Interface
I/O 16	40884	3108-1	Disc Controller
I/O 17	40880	3108-1	Disc Interface
I/O 18	40884	3108-1	Disc Controller
I/O 19	40880	3108-1	Disc Interface
I/O 20	40884	3108-1	Disc Controller
I/O 21	-	-	Open
I/O 22	-	-	Open
I/O 23	-	-	Open
I/O 24	-	-	Open

FIGURE 1-4. KANSAS CITY MPS SITE # 1 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 1-5. KANSAS CITY MPS SITE # 1 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

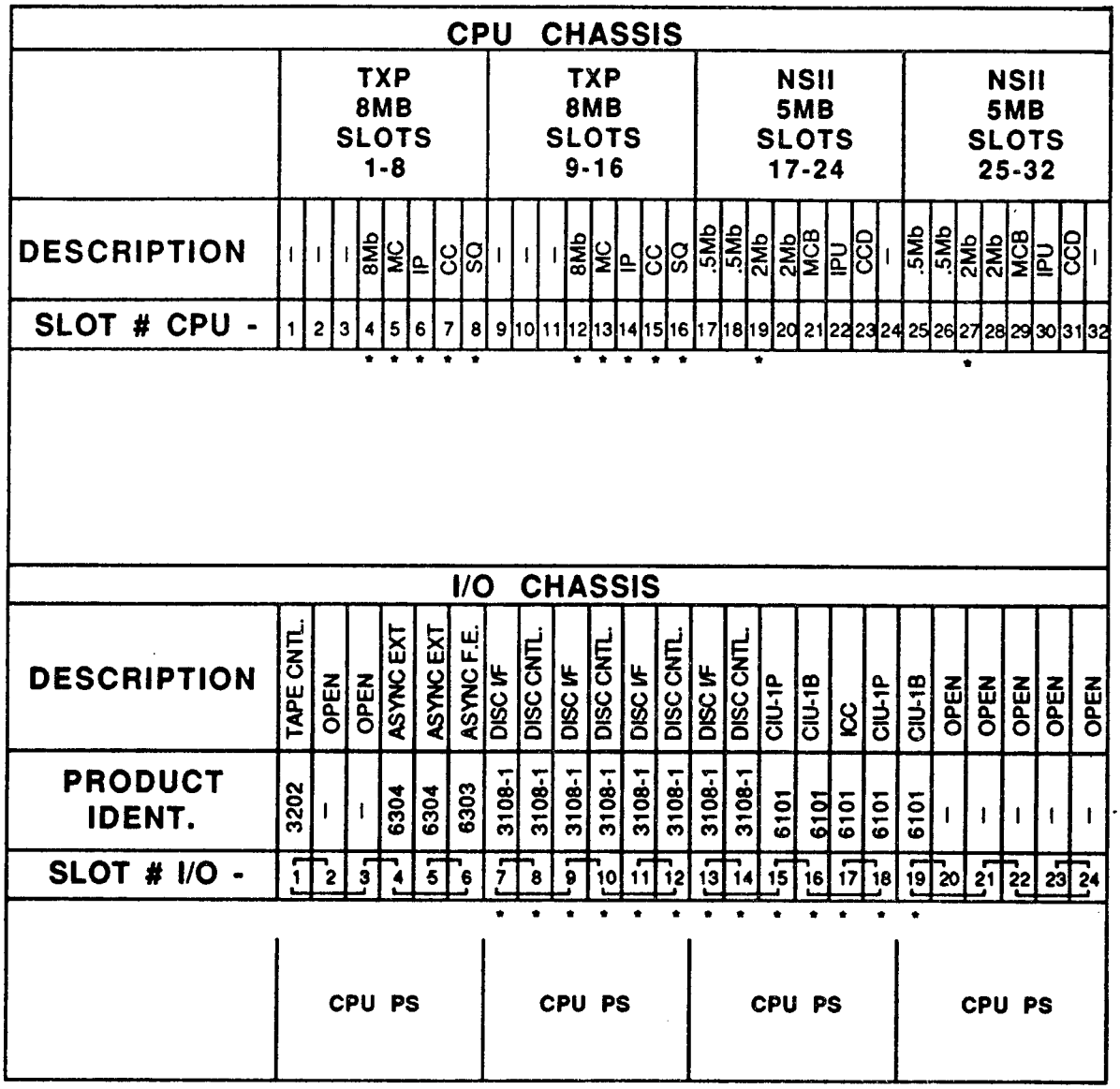
FIGURE 2-1. LOS ANGELES MPS SITE # 2 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	57602	-	0.5 Mb Memory
CPU	2	57603	-	0.5 Mb Memory
CPU	3	57601	-	0.5 Mb Memory
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	54740	-	0.5 Mb Memory
CPU	10	54740	-	0.5 Mb Memory
CPU	11	54740	-	0.5 Mb Memory
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	57613	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	57602	-	0.5 Mb Memory
CPU	18	54740	-	0.5 Mb Memory
CPU	19	57601	-	0.5 Mb Memory
CPU	20	57740	-	2.0 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	57612	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 2-2. LOS ANGELES MPS SITE # 2 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

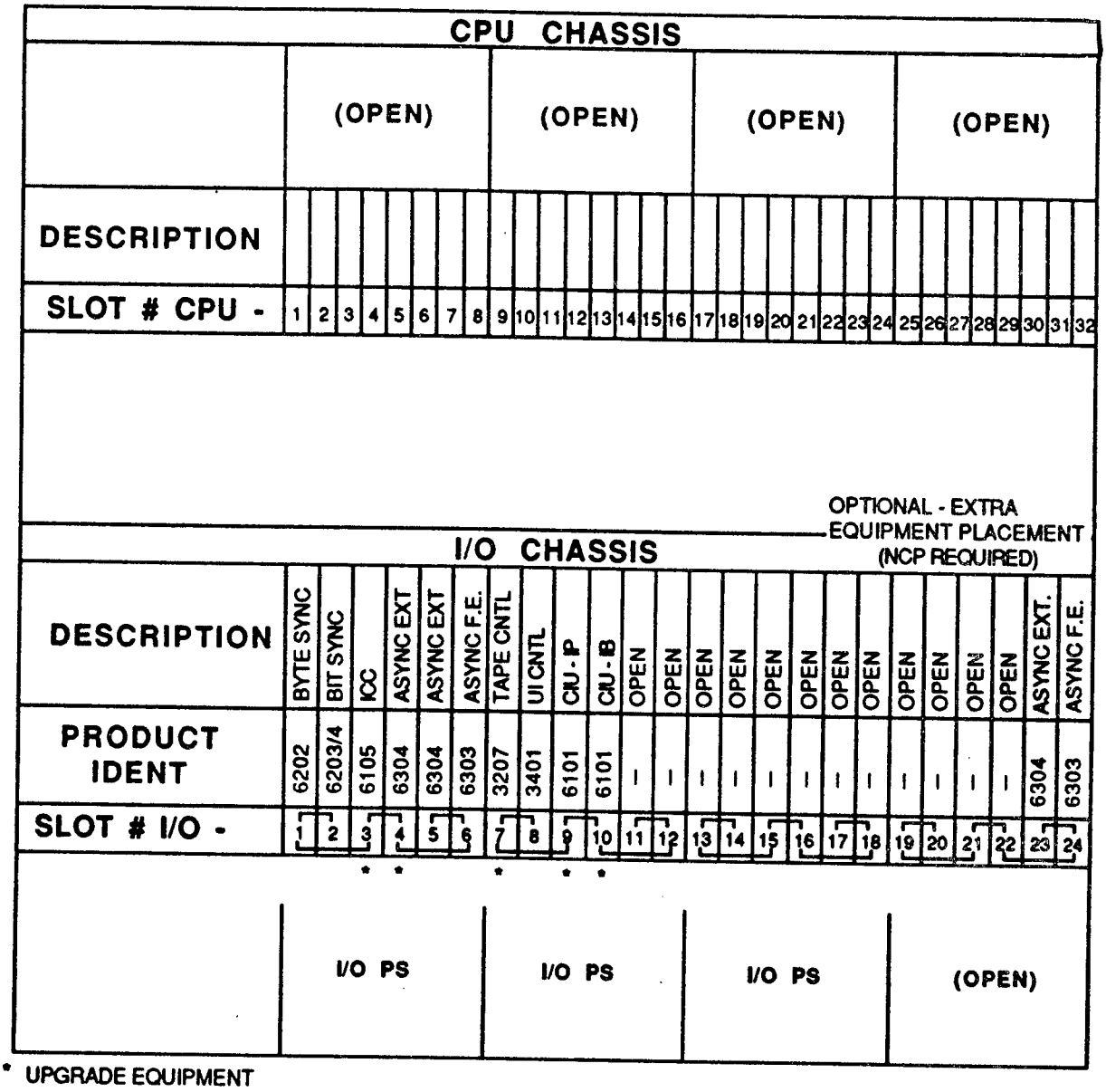
SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	52020	3202	Tape Controller
I/O 2	51210	3401	UI Controller
I/O 3	-	-	Open
I/O 4	53000	6304	Async Extension Board
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	55820	3106	Disc Controller SCU I/F
I/O 8	55900	3106	Disc Controller Channel I/F
I/O 9	55820	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	58810	6204	Bit Sync Controller
I/O 12	-	-	Open
I/O 13	-	-	Open
I/O 14	53000	6304	Async Extension Board
I/O 15	52990	6303	Async Front End Board
I/O 16	-	-	Open
I/O 17	-	-	Open
I/O 18	59210	6202	Byte Sync Controller
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	58810	6204	Bit Sync Controller
I/O 23	-	-	Open
I/O 24	-	-	Open

FIGURE 2-3. LOS ANGELES MPS SITE # 2 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 2-4. LOS ANGELES MPS SITE # 2 SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

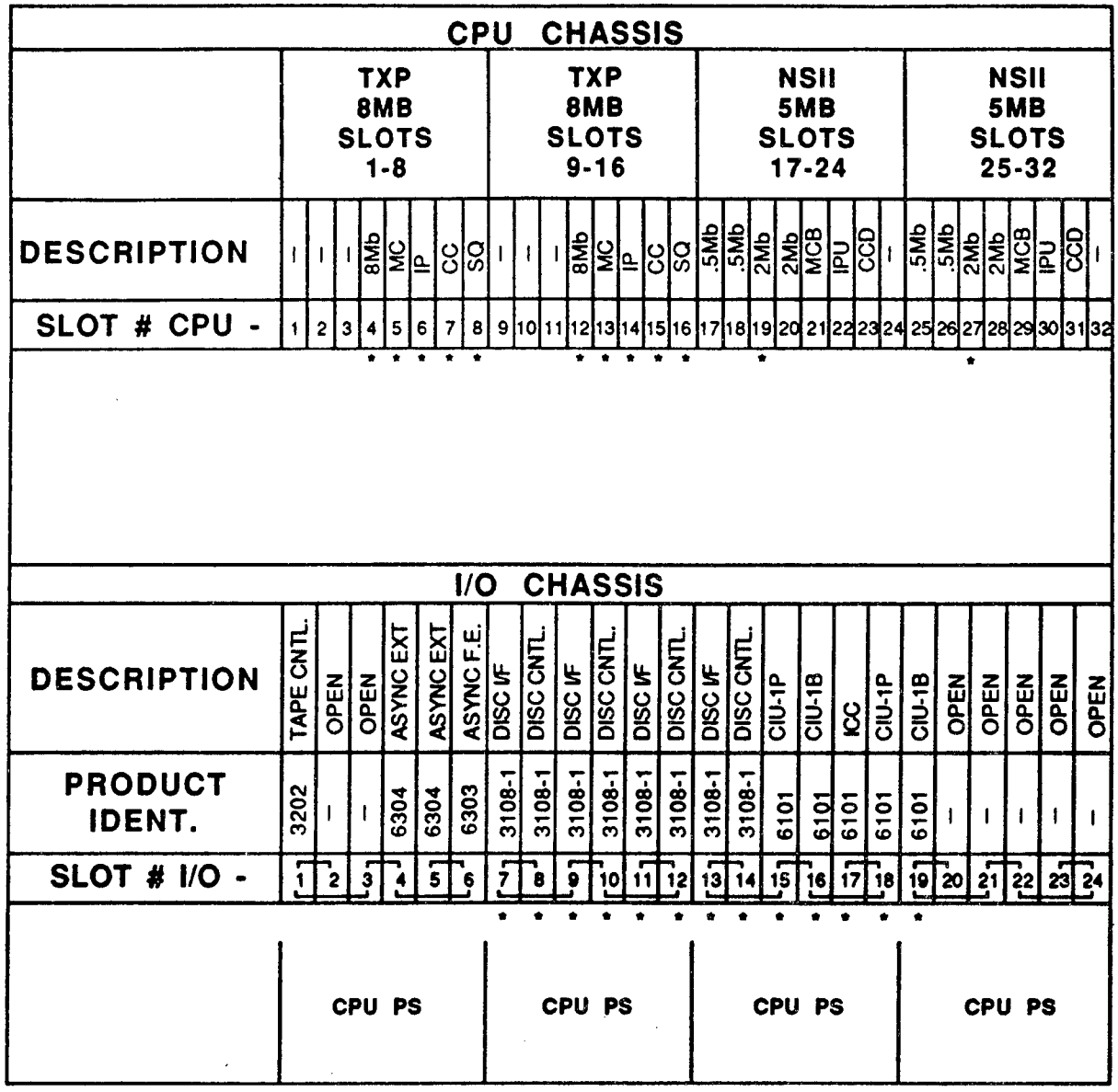
FIGURE 3-1. ANCHORAGE MPS SITE # 3 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57603	-	0.5 Mb Memory
CPU 4	57603	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	57612	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	54740	-	0.5 Mb Memory
CPU 11	57603	-	0.5 Mb Memory
CPU 12	57603	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57612	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	54740	-	0.5 Mb Memory
CPU 19	54740	-	0.5 Mb Memory
CPU 20	54740	-	0.5 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 3-2. ANCHORAGE MPS SITE # 3 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

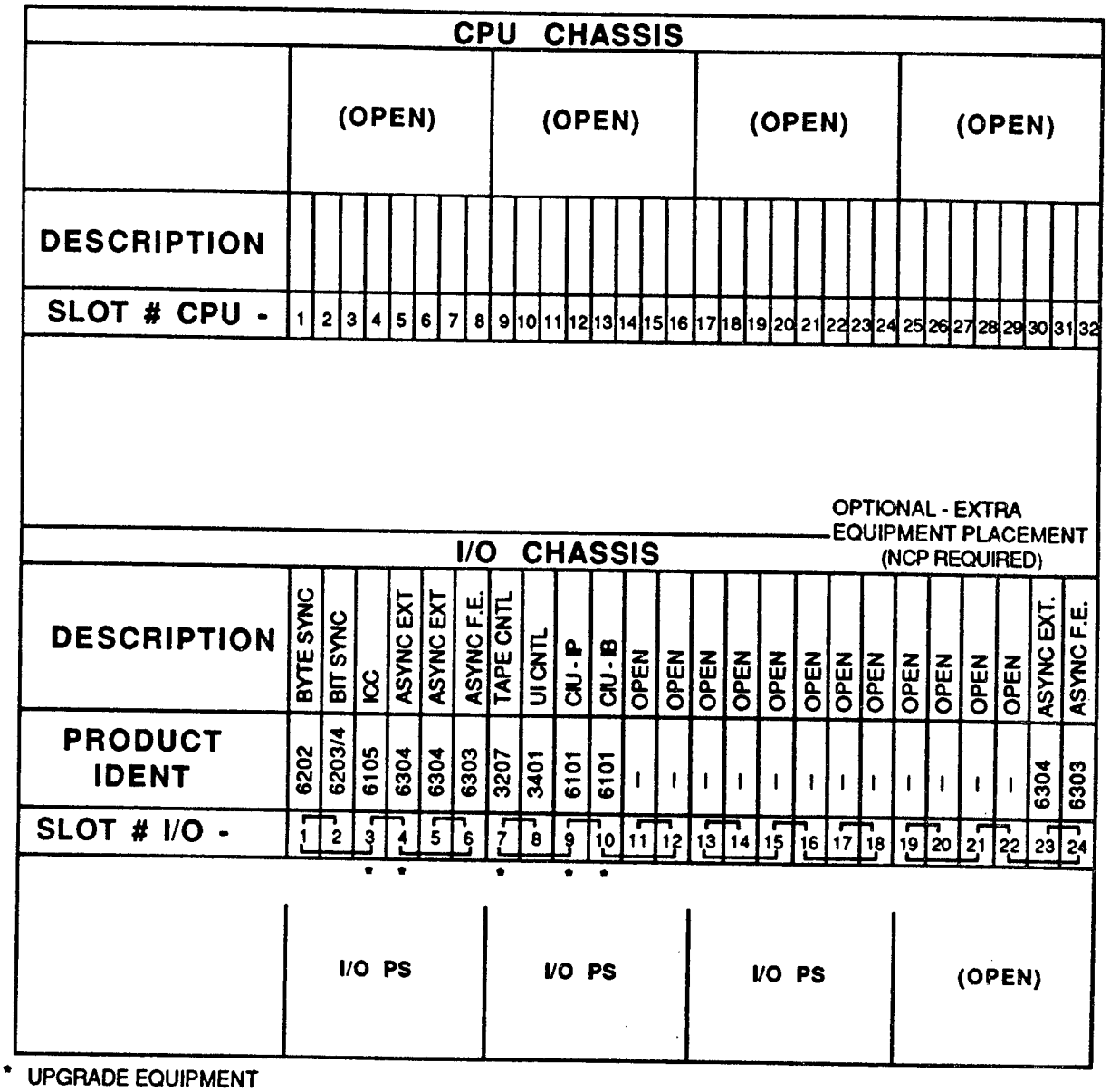
SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	52020	3202	Tape Controller
I/O 2	51210	3401	UI Controller
I/O 3	-	-	Open
I/O 4	53000	6304	Async Extension Board
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	55930	3106	Disc Controller SCU I/F
I/O 8	55900	3106	Disc Controller Channel I/F
I/O 9	55930	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	-	-	Open
I/O 12	-	-	Open
I/O 13	-	-	Open
I/O 14	53000	6304	Async Extension Board
I/O 15	52990	6303	Async Front End Board
I/O 16	-	-	Open
I/O 17	59210	6202	Byte Sync Controller
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	58810	6204	Bit Sync Controller
I/O 23	-	-	Open
I/O 24	58810	6204	Bit Sync Controller

FIGURE 3-3. ANCHORAGE MPS SITE # 3 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 3-4. ANCHORAGE MPS SITE # 3 SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 4-1. CHICAGO MPS SITE # 4 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57602	-	0.5 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57601	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	57612	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	54740	-	0.5 Mb Memory
CPU 10	54740	-	0.5 Mb Memory
CPU 11	57602	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57612	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	54740	-	0.5 Mb Memory
CPU 18	57602	-	0.5 Mb Memory
CPU 19	54740	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 4-2. CHICAGO MPS SITE # 4 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	-	-	Open
I/O	8	-	-	Open
I/O	9	55820	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55820	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	53570	6203	Bit Sync Controller

FIGURE 4-3. CHICAGO MPS SITE # 4 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

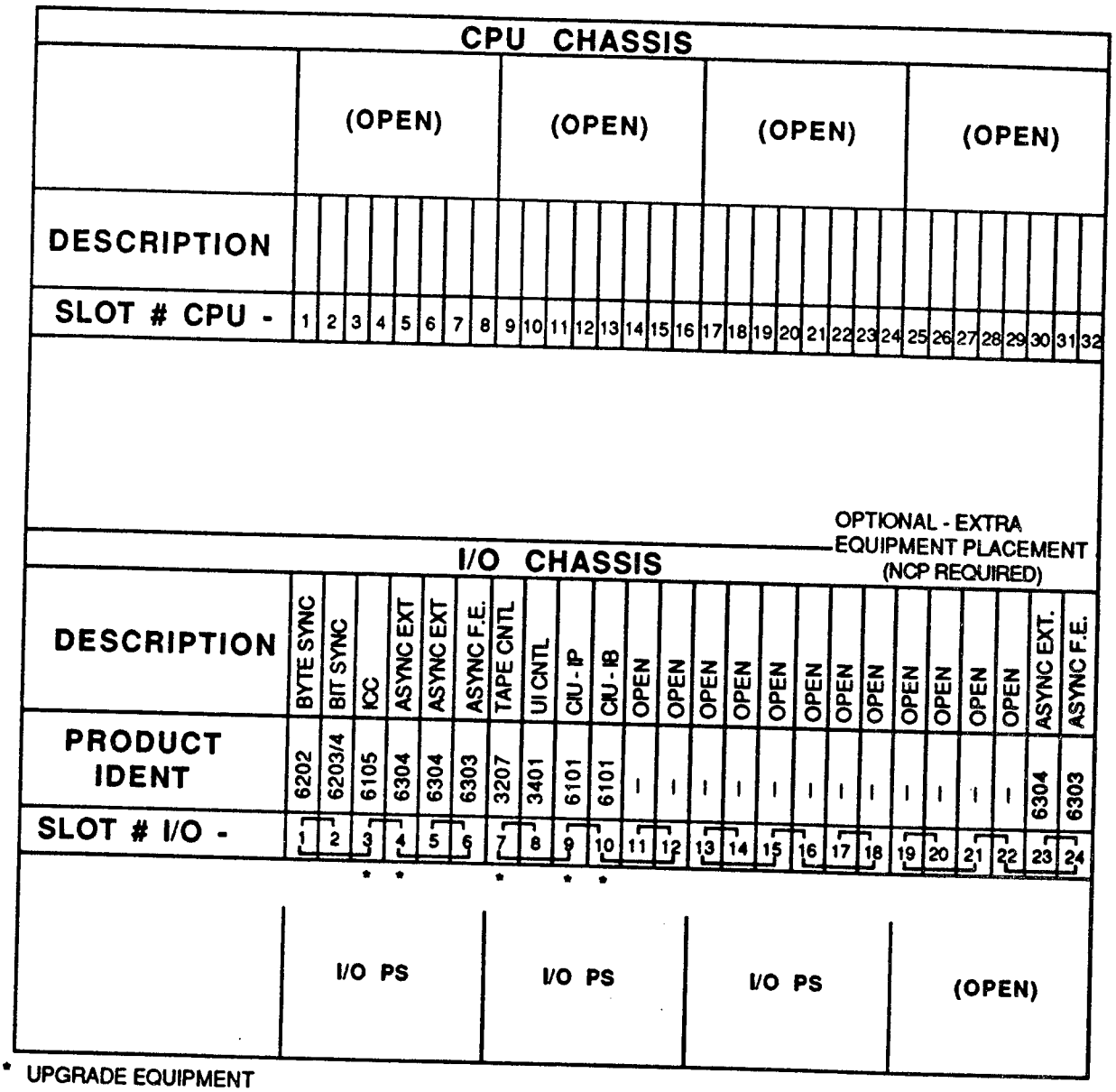
	TXP 8MB SLOTS 1-8								TXP 8MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	–	–	–	8Mb	MC	IP	CC	SQ	–	–	–	8Mb	MC	IP	CC	SQ	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				*	*	*	*	*				*	*	*	*	*			*								*					

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	OPEN	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	CIU-1P	CIU-1B	ICC	CIU-1P	CIU-1B	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT.	3202	–	–	6304	6304	6303	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	6101	6101	6101	6101	6101	–	–	–	–	–
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
							*	*	*	*	*	*	*	*	*	*	*	*	*					
	CPU PS						CPU PS						CPU PS						CPU PS					

* UPGRADE EQUIPMENT

FIGURE 4-4. CHICAGO MPS SITE # 4 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

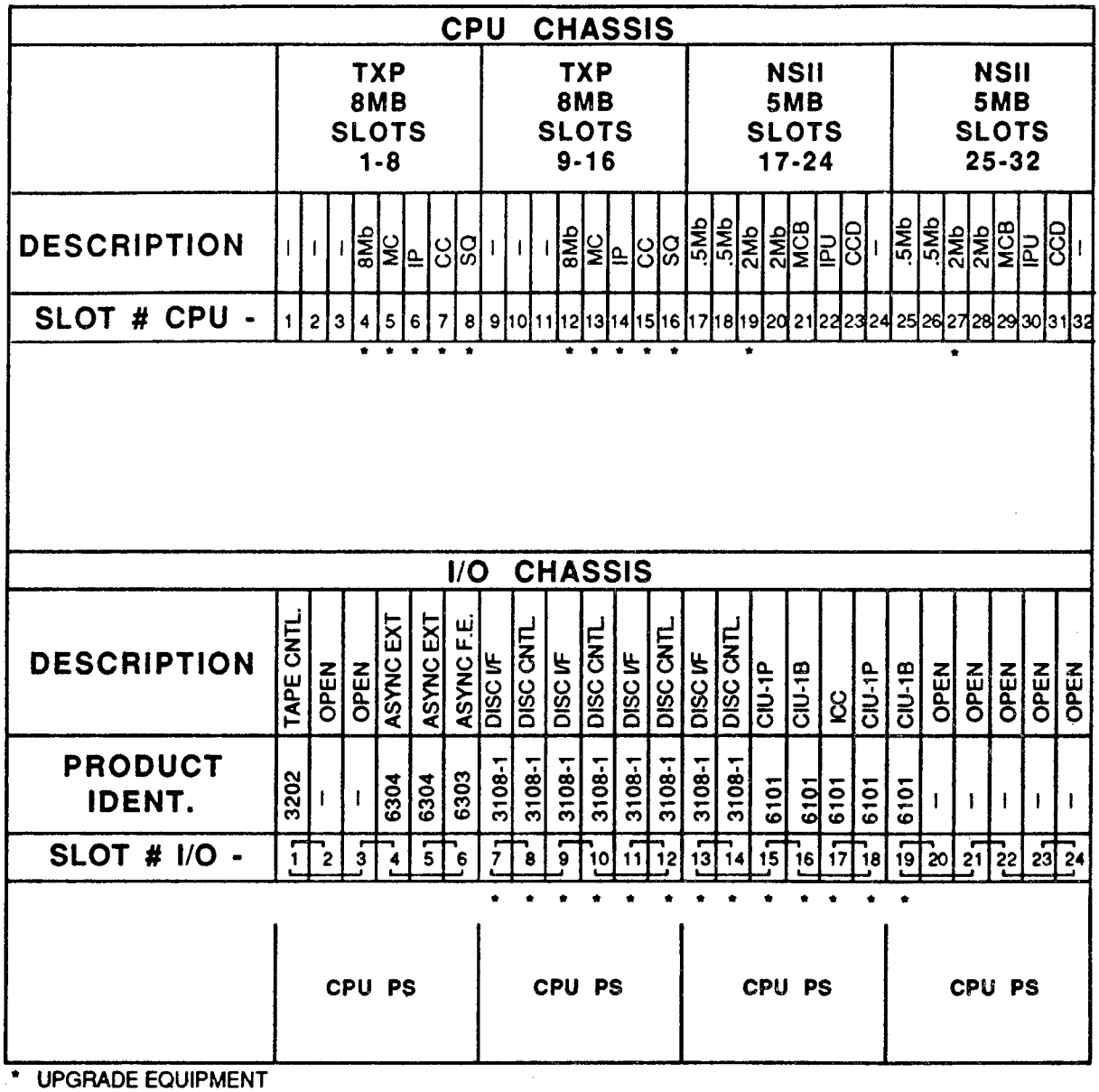
FIGURE 5-1. ATLANTA MPS SITE # 5 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57601	-	0.5 Mb Memory
CPU 2	57602	-	0.5 Mb Memory
CPU 3	57601	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	57612	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57602	-	0.5 Mb Memory
CPU 10	57602	-	0.5 Mb Memory
CPU 11	57601	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57612	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	57603	-	0.5 Mb Memory
CPU 18	57601	-	0.5 Mb Memory
CPU 19	57601	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 5-2. ATLANTA MPS SITE # 5 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

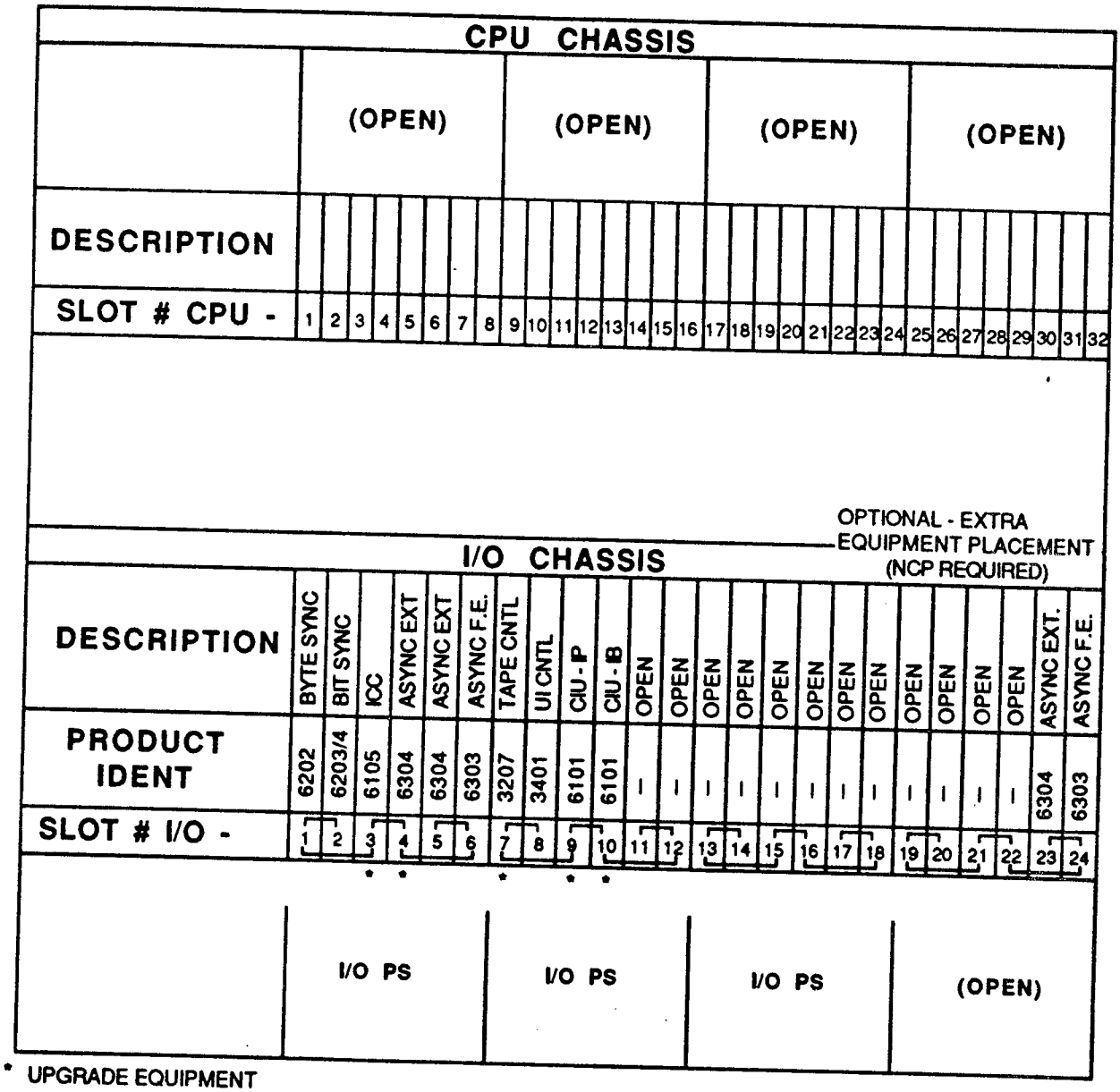
SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	52020	3202	Tape Controller
I/O 2	51210	3401	UI Controller
I/O 3	-	-	Open
I/O 4	53000	6304	Async Extension Board
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	55930	3106	Disc Controller SCU I/F
I/O 8	55900	3106	Disc Controller Channel I/F
I/O 9	55930	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	-	-	Open
I/O 12	-	-	Open
I/O 13	-	-	Open
I/O 14	53000	6304	Async Extension Board
I/O 15	52990	6303	Async Front End Board
I/O 16	-	-	Open
I/O 17	59210	6202	Byte Sync Controller
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	58810	6204	Bit Sync Controller
I/O 23	-	-	Open
I/O 24	58810	6204	Bit Sync Controller

FIGURE 5-3. ATLANTA MPS SITE # 5 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 5-4. ATLANTA MPS SITE # 5 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 6-1. FT. WORTH MPS SITE # 6 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	57603	-	0.5 Mb Memory
CPU	2	57601	-	0.5 Mb Memory
CPU	3	57601	-	0.5 Mb Memory
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	57612	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	54740	-	0.5 Mb Memory
CPU	10	54740	-	0.5 Mb Memory
CPU	11	57602	-	0.5 Mb Memory
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	57615	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	57603	-	0.5 Mb Memory
CPU	18	54740	-	0.5 Mb Memory
CPU	19	54740	-	0.5 Mb Memory
CPU	20	57740	-	2.0 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 6-2. FT. WORTH MPS SITE # 6 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	-	-	Open
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	55840	6202	Byte Sync Controller
I/O	17	59210	6202	Byte Sync Controller
I/O	18	51210	3401	UI Controller
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	58810	6204	Bit Sync Controller

FIGURE 6-3. FT. WORTH MPS SITE # 6 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

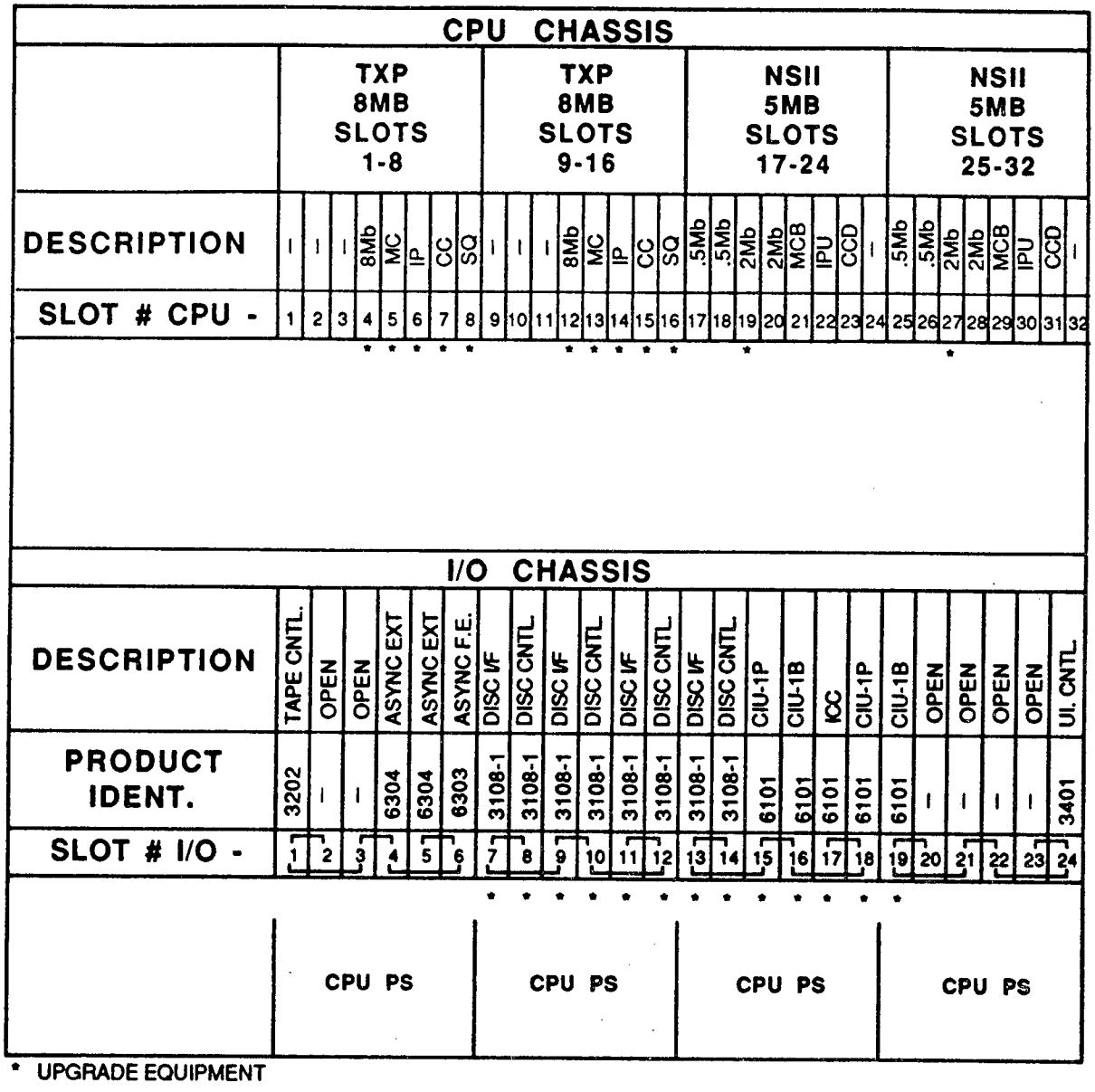


FIGURE 6-4. FT. WORTH MPS SITE # 6 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

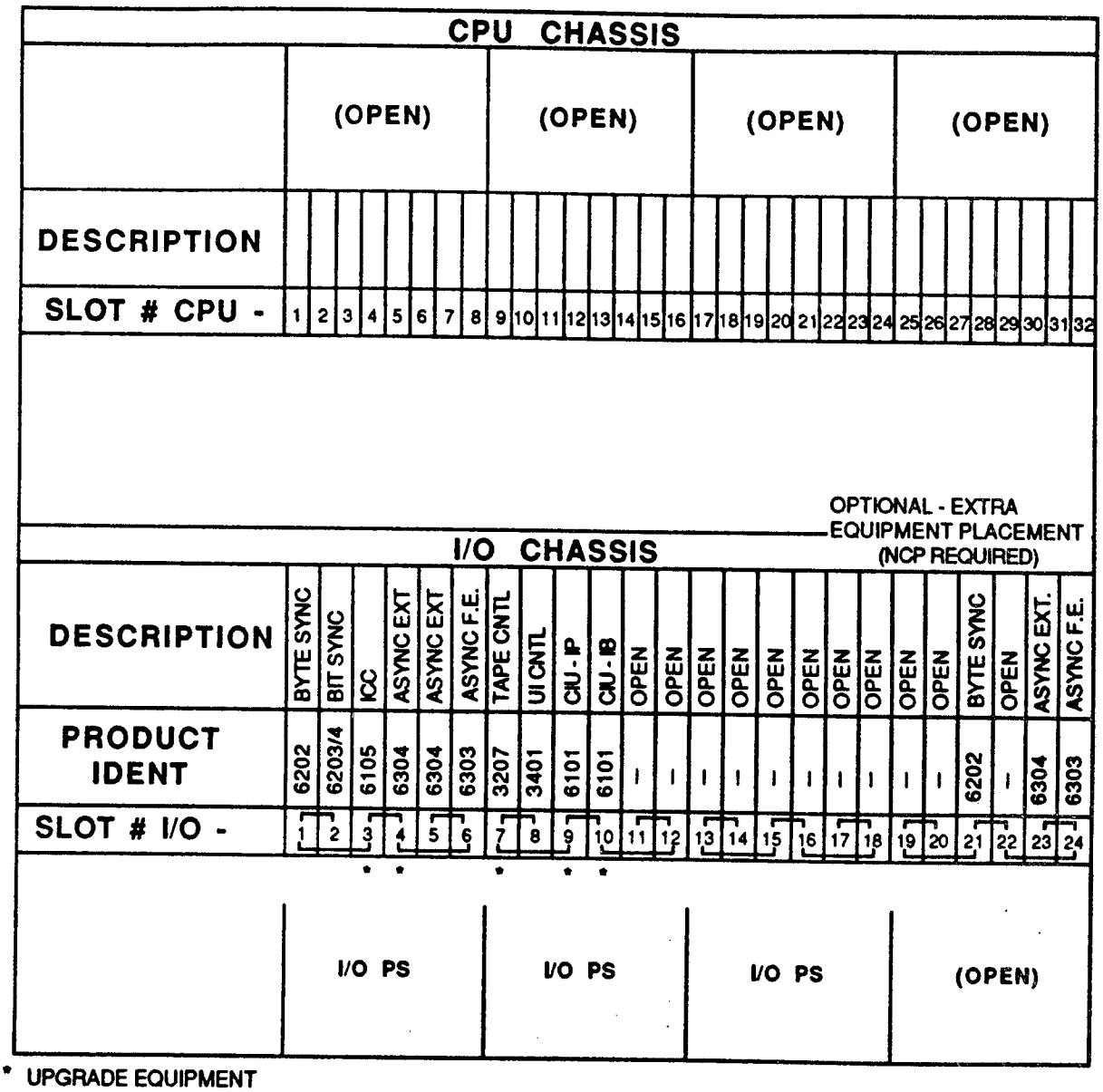


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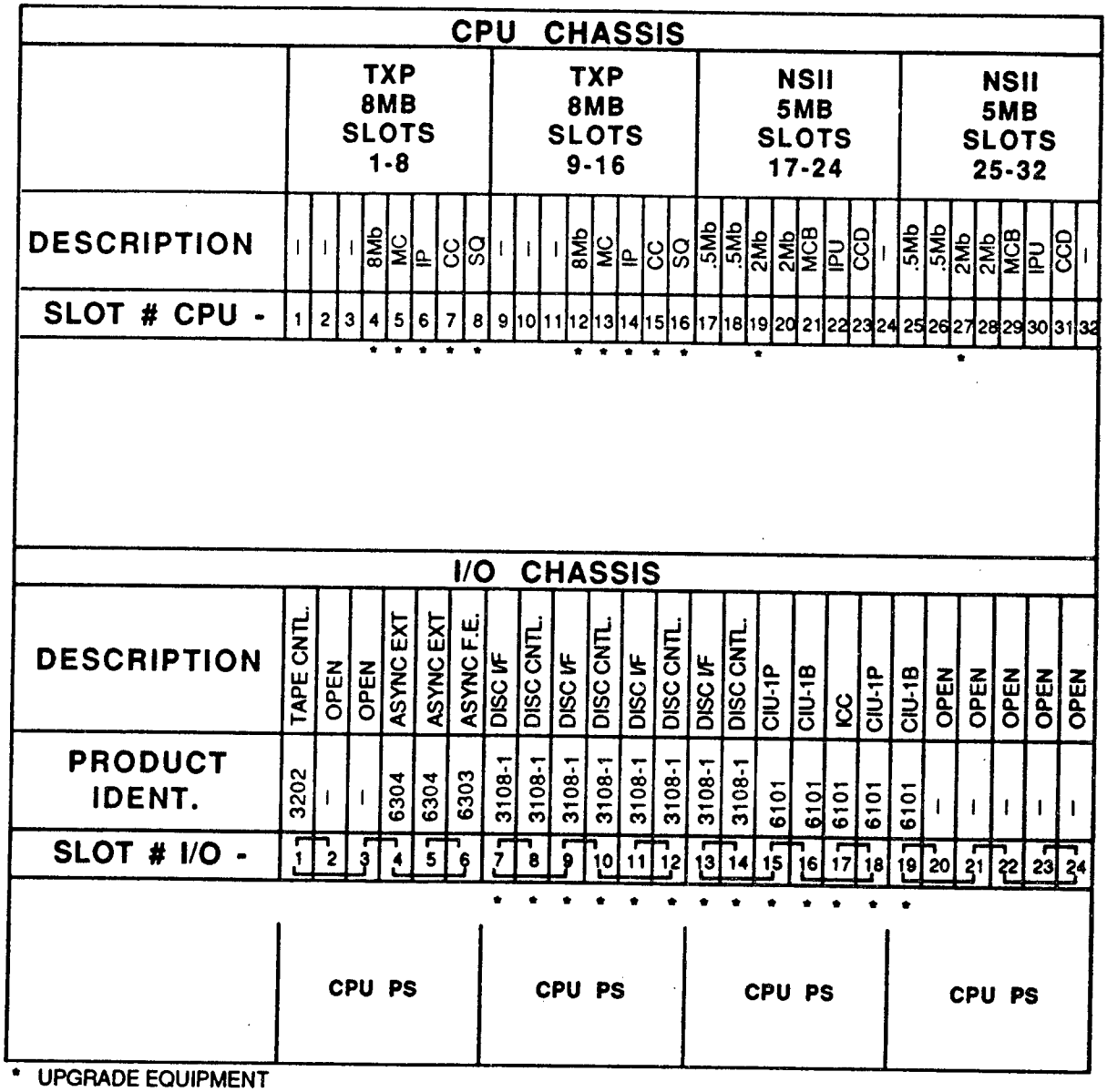
FIGURE 7-1. SAN JUAN MPS SITE # 7 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	57603	-	0.5 Mb Memory
CPU 3	57603	-	0.5 Mb Memory
CPU 4	57603	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	54740	-	0.5 Mb Memory
CPU 11	57603	-	0.5 Mb Memory
CPU 12	57602	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57613	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	54740	-	0.5 Mb Memory
CPU 19	57603	-	0.5 Mb Memory
CPU 20	57603	-	0.5 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	57612	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 7-2. SAN JUAN MPS SITE # 7 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

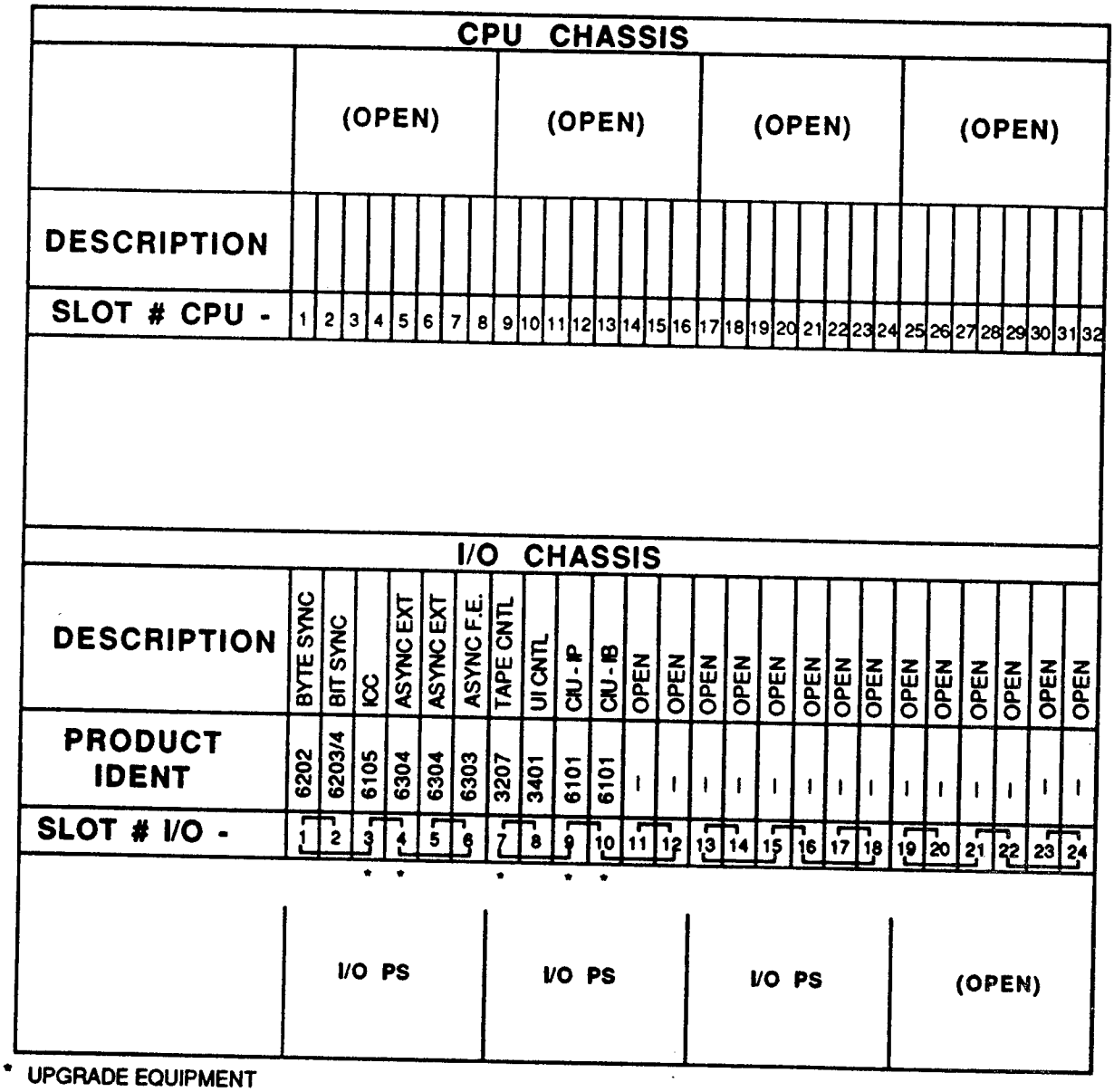
SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	52020	3202	Tape Controller
I/O 2	51210	3401	UI Controller
I/O 3	-	-	Open
I/O 4	53000	6304	Async Extension Board
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	55930	3106	Disc Controller SCU I/F
I/O 8	55900	3106	Disc Controller Channel I/F
I/O 9	55930	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	-	-	Open
I/O 12	-	-	Open
I/O 13	-	-	Open
I/O 14	-	-	Open
I/O 15	-	-	Open
I/O 16	-	-	Open
I/O 17	59210	6202	Byte Sync Controller
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	58810	6204	Bit Sync Controller
I/O 23	-	-	Open
I/O 24	-	-	Open

FIGURE 7-3. SAN JUAN MPS SITE # 7 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 7-4. SAN JUAN MPS SITE # 7 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

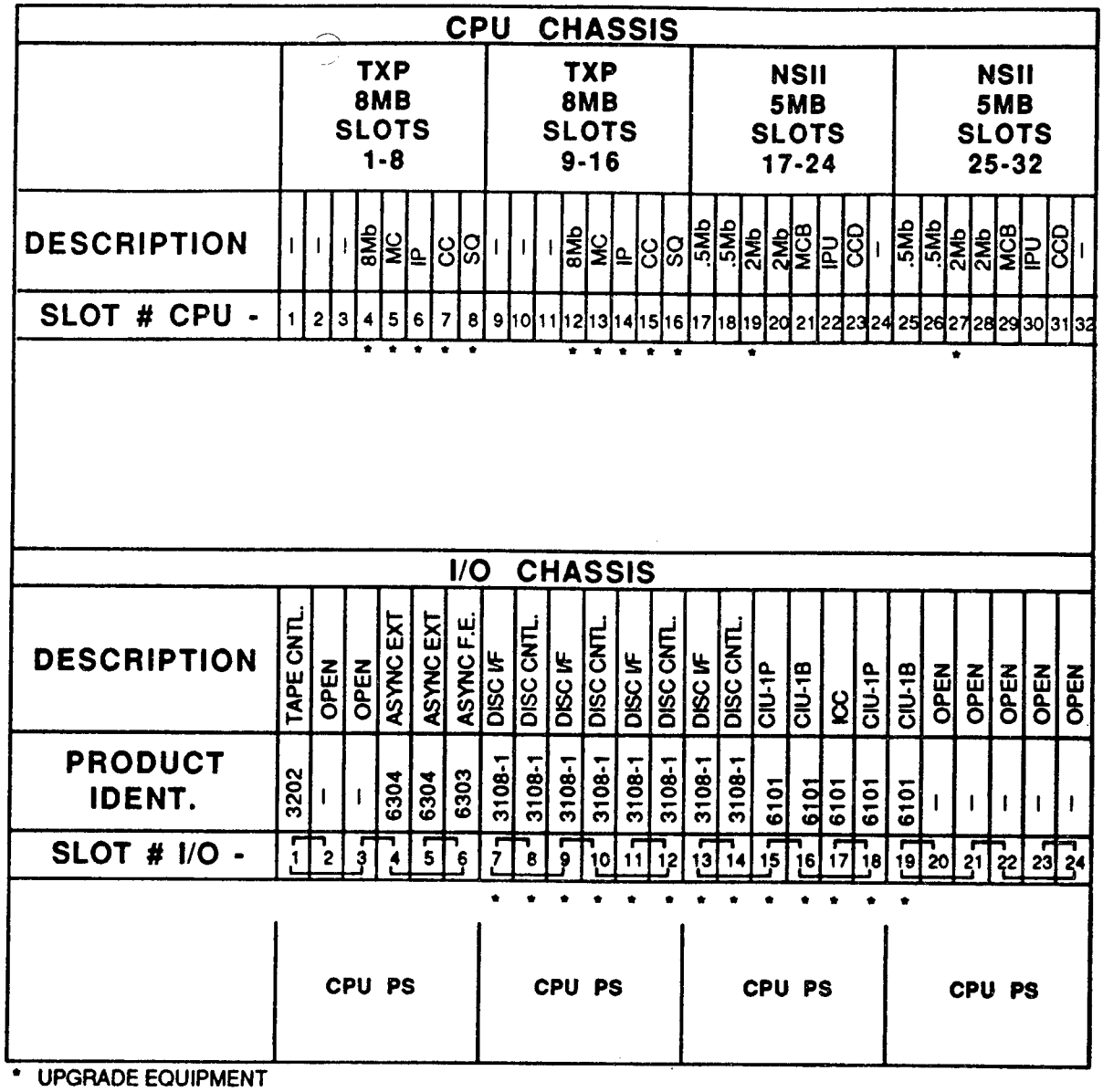
FIGURE 8-1. HOUSTON MPS SITE # 8 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57740	-	2.0 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57601	-	0.5 Mb Memory
CPU 4	57601	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57740	-	2.0 Mb Memory
CPU 10	54740	-	0.5 Mb Memory
CPU 11	54740	-	0.5 Mb Memory
CPU 12	54740	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57612	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	57740	-	2.0 Mb Memory
CPU 18	54740	-	0.5 Mb Memory
CPU 19	57601	-	0.5 Mb Memory
CPU 20	54740	-	0.5 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 8-2. HOUSTON MPS SITE # 8 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

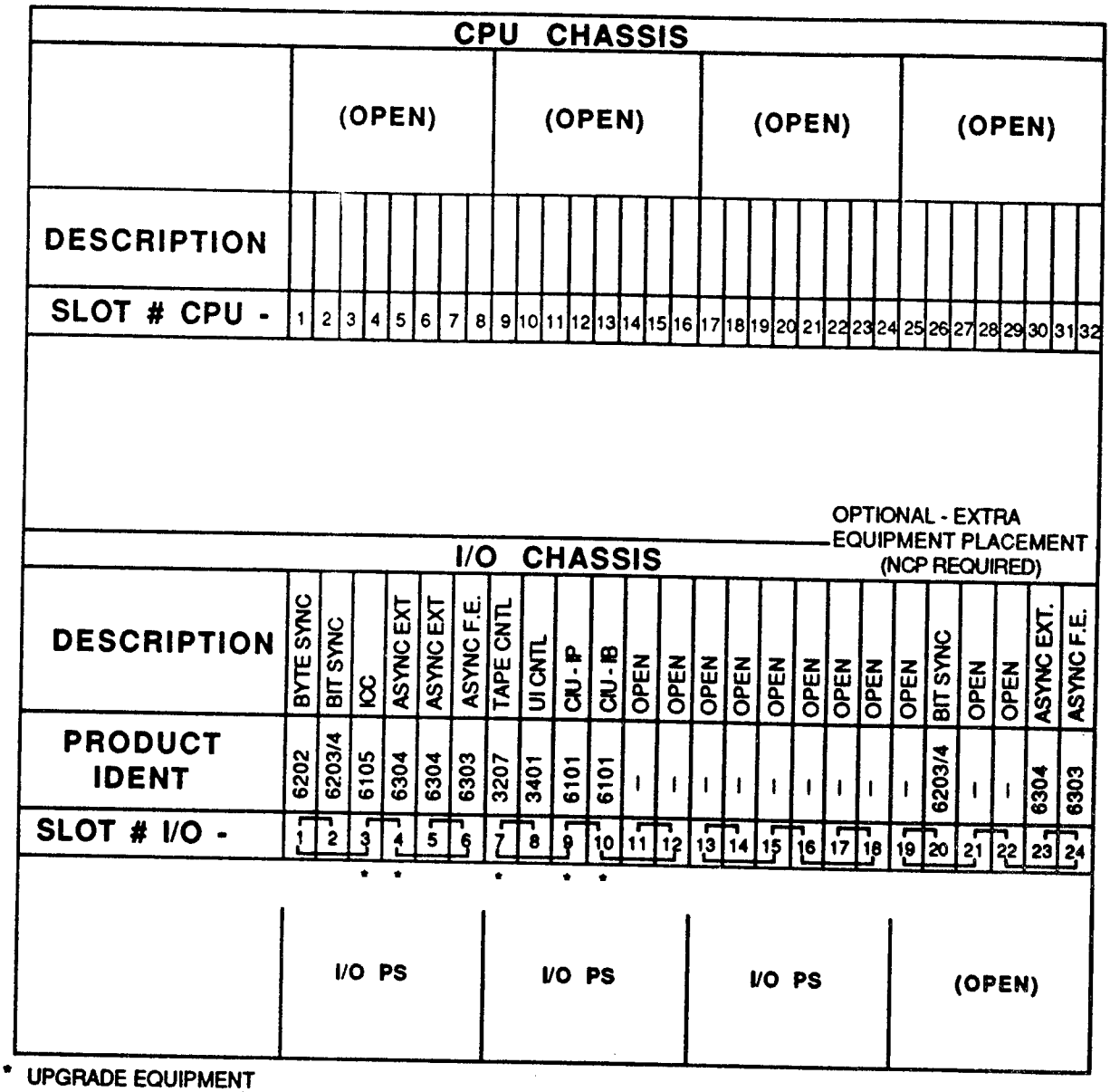
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	55840	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	53570	6203	Bit Sync Controller

FIGURE 8-3. HOUSTON MPS SITE # 8 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 8-4. HOUSTON MPS SITE # 8 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

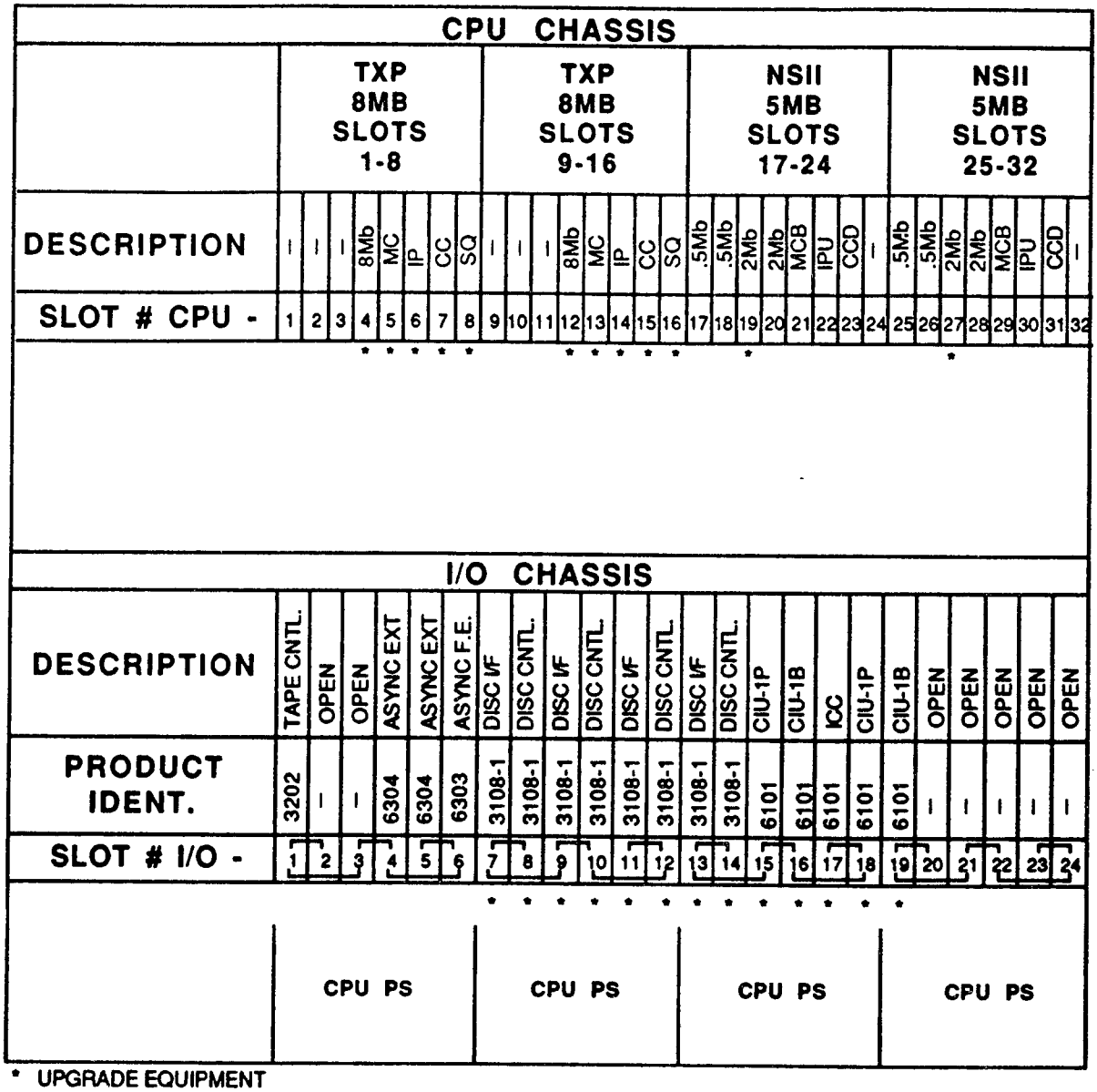
FIGURE 9-1. JACKSONVILLE MPS SITE # 9 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57601	-	0.5 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57601	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57601	-	0.5 Mb Memory
CPU 10	57601	-	0.5 Mb Memory
CPU 11	54740	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57613	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	57603	-	0.5 Mb Memory
CPU 18	57601	-	0.5 Mb Memory
CPU 19	57603	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 9-2. JACKSONVILLE MPS SITE # 9 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

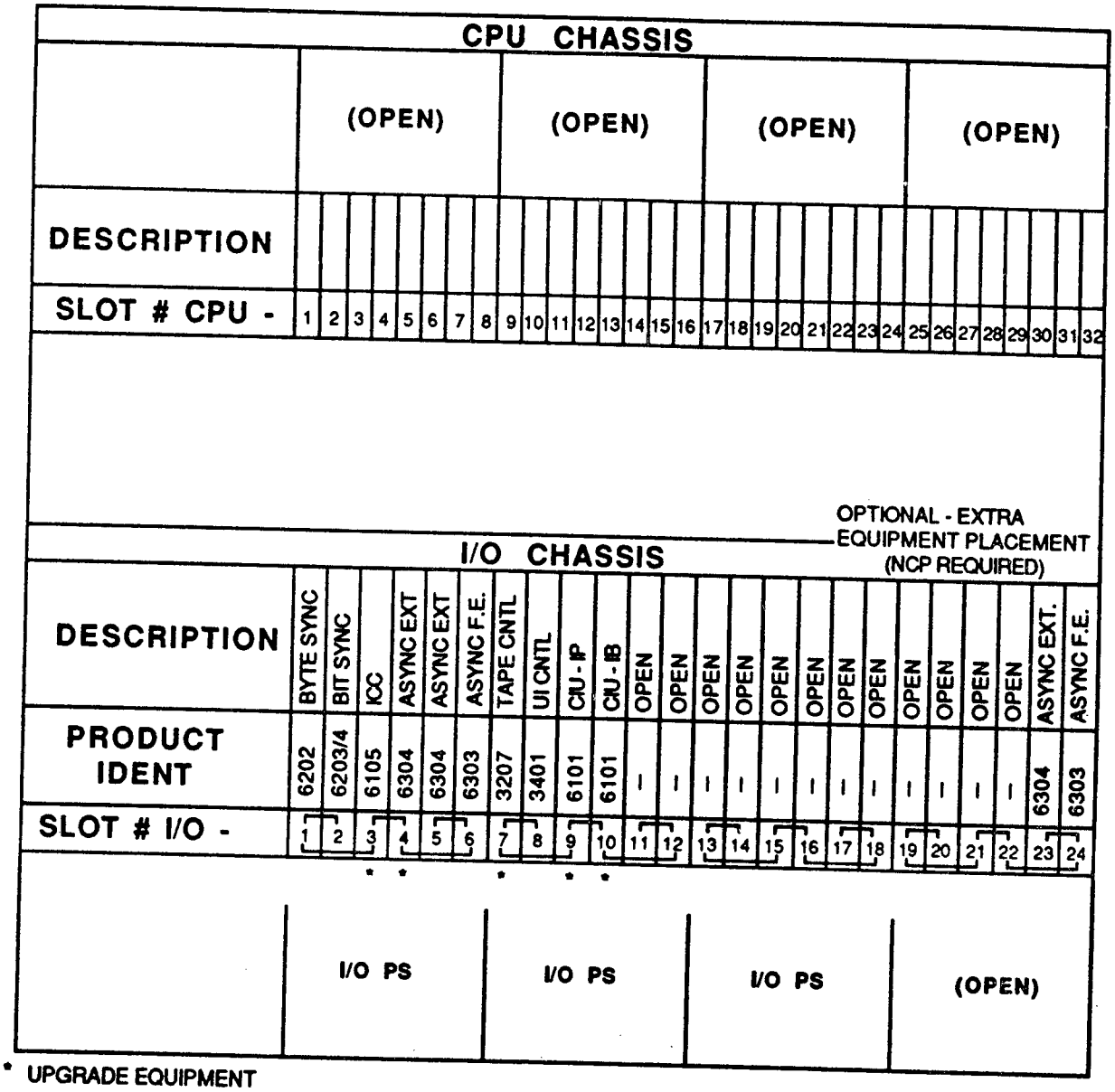
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	58810	6204	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 9-3. JACKSONVILLE MPS SITE # 9 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 9-4. JACKSONVILLE MPS SITE # 9 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

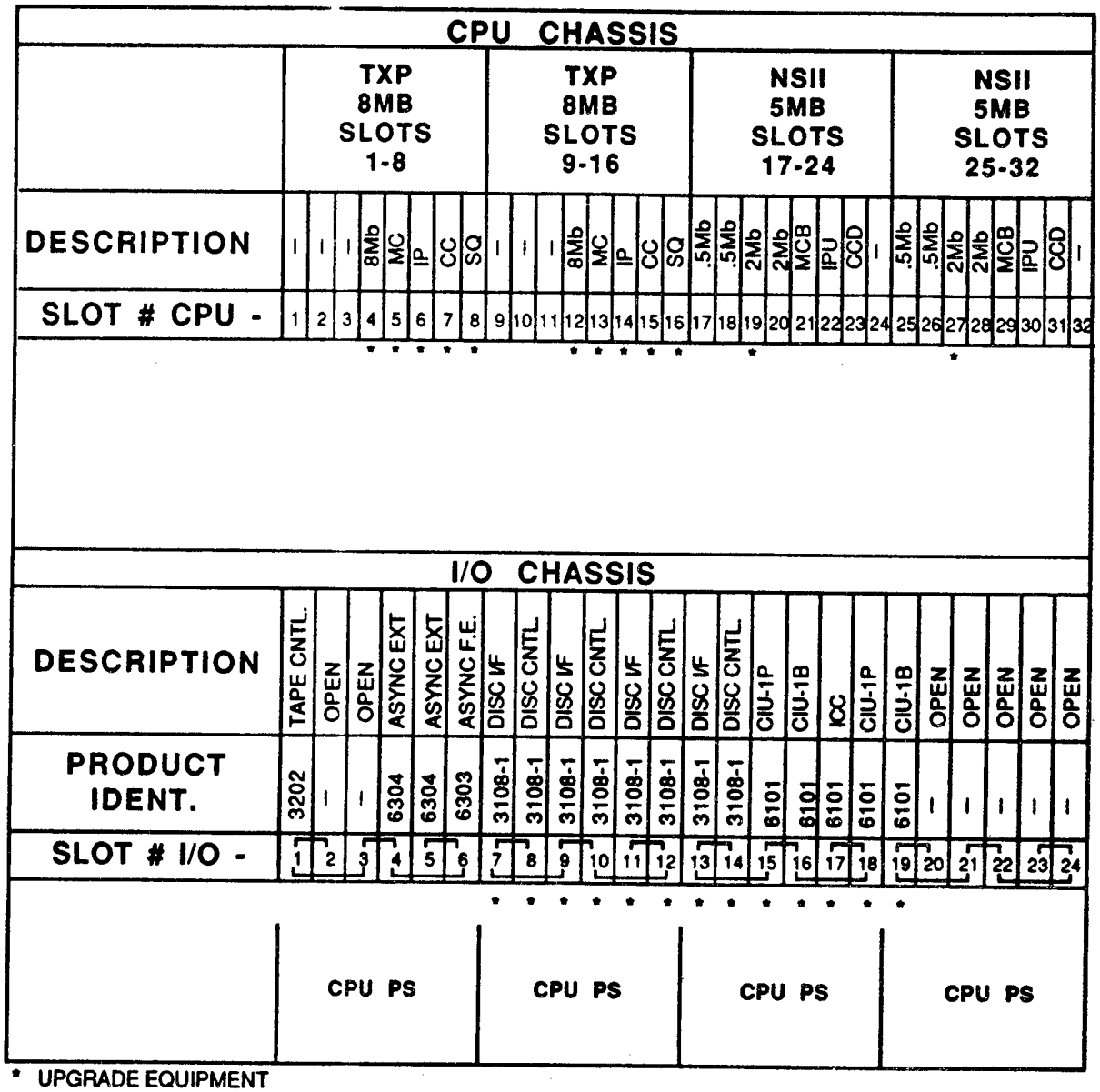
FIGURE 10-1. ALBUQUERQUE MPS SITE # 10 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57740	-	2.0 Mb Memory
CPU 2	57603	-	0.5 Mb Memory
CPU 3	57601	-	0.5 Mb Memory
CPU 4	57602	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	57613	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57740	-	2.0 Mb Memory
CPU 10	57602	-	0.5 Mb Memory
CPU 11	57601	-	0.5 Mb Memory
CPU 12	57601	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57612	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	57740	-	2.0 Mb Memory
CPU 18	57603	-	0.5 Mb Memory
CPU 19	57603	-	0.5 Mb Memory
CPU 20	57603	-	0.5 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 10-2. ALBUQUERQUE MPS SITE # 10 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

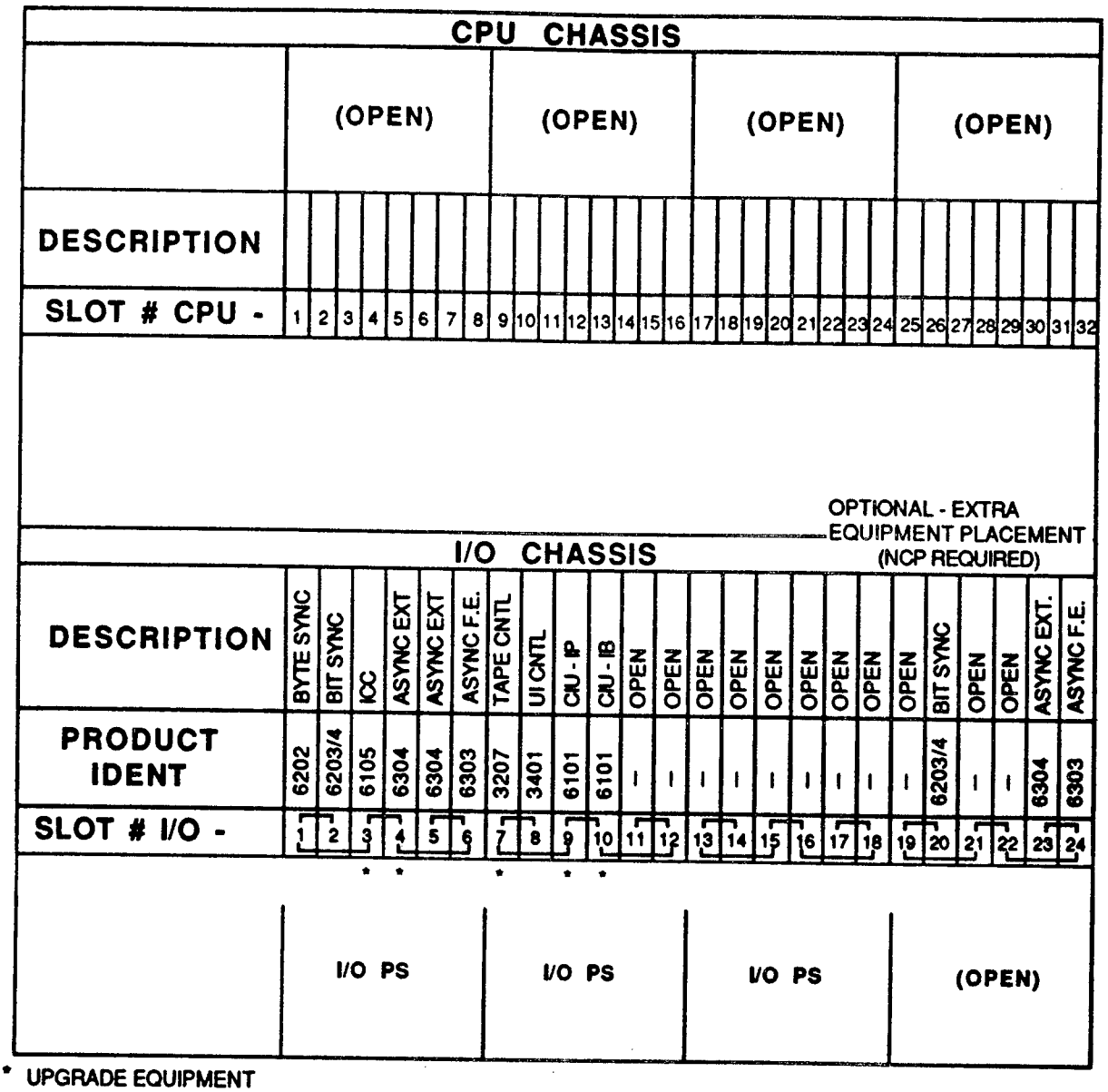
SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	58000	3202	Tape Controller
I/O 2	51210	3401	UI Controller
I/O 3	-	-	Open
I/O 4	53000	6304	Async Extension Board
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	55930	3106	Disc Controller SCU I/F
I/O 8	55900	3106	Disc Controller Channel I/F
I/O 9	55930	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	-	-	Open
I/O 12	-	-	Open
I/O 13	-	-	Open
I/O 14	53000	6304	Async Extension Board
I/O 15	52990	6303	Async Front End Board
I/O 16	-	-	Open
I/O 17	59210	6202	Byte Sync Controller
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	58810	6204	Bit Sync Controller
I/O 23	53570	6203	Bit Sync Controller
I/O 24	53570	6203	Bit Sync Controller

FIGURE 10-3. ALBUQUERQUE MPS SITE # 10 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 10-4. ALBUQUERQUE MPS SITE # 10 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

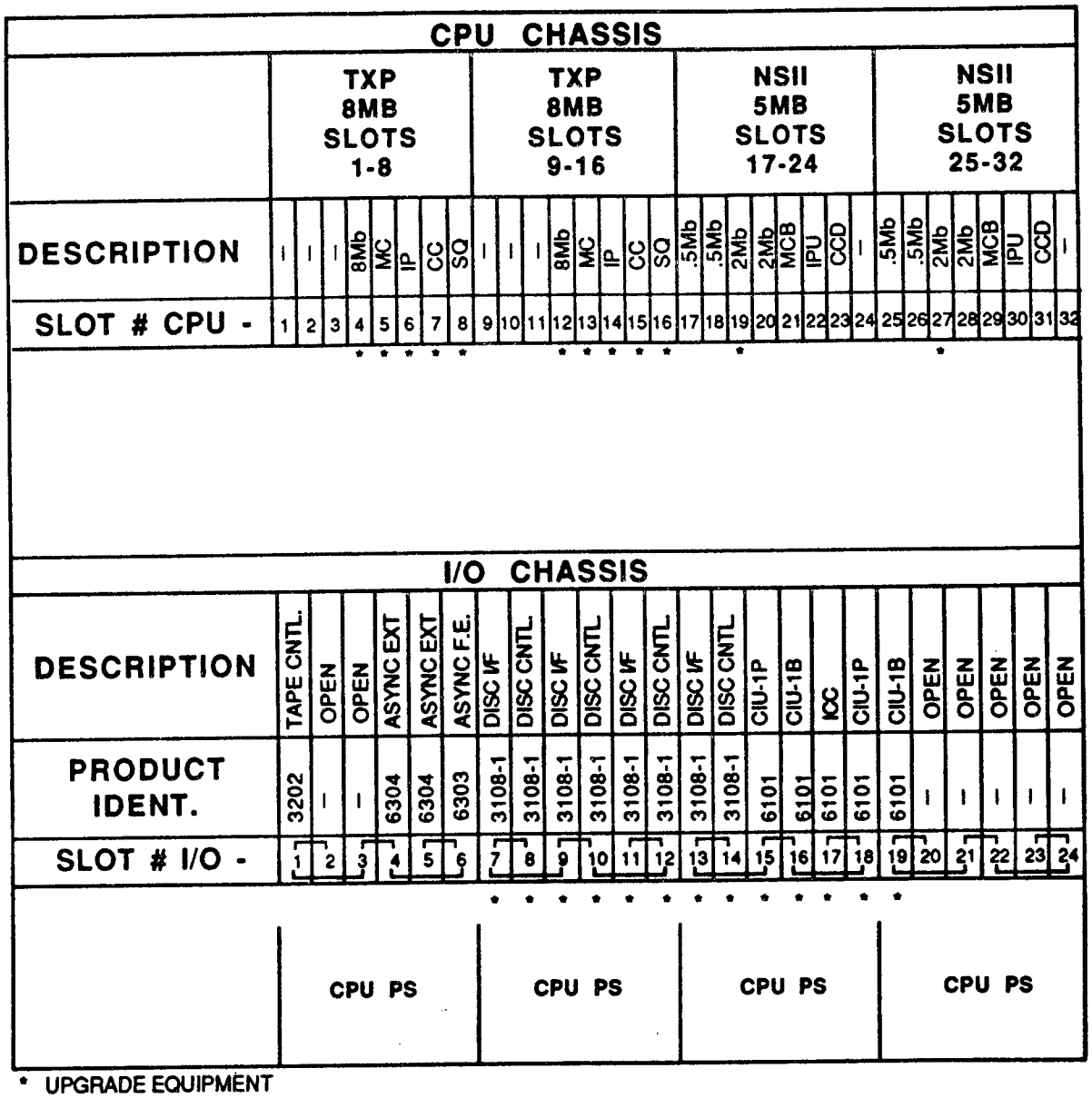
FIGURE 11-1. MIAMI MPS SITE # 11 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	57601	-	0.5 Mb Memory
CPU	2	57601	-	0.5 Mb Memory
CPU	3	57601	-	0.5 Mb Memory
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	57613	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	57603	-	0.5 Mb Memory
CPU	10	57602	-	0.5 Mb Memory
CPU	11	57603	-	0.5 Mb Memory
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	57613	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	57603	-	0.5 Mb Memory
CPU	18	57603	-	0.5 Mb Memory
CPU	19	57603	-	0.5 Mb Memory
CPU	20	57740	-	2.0 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 11-2. MIAMI MPS SITE # 11 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

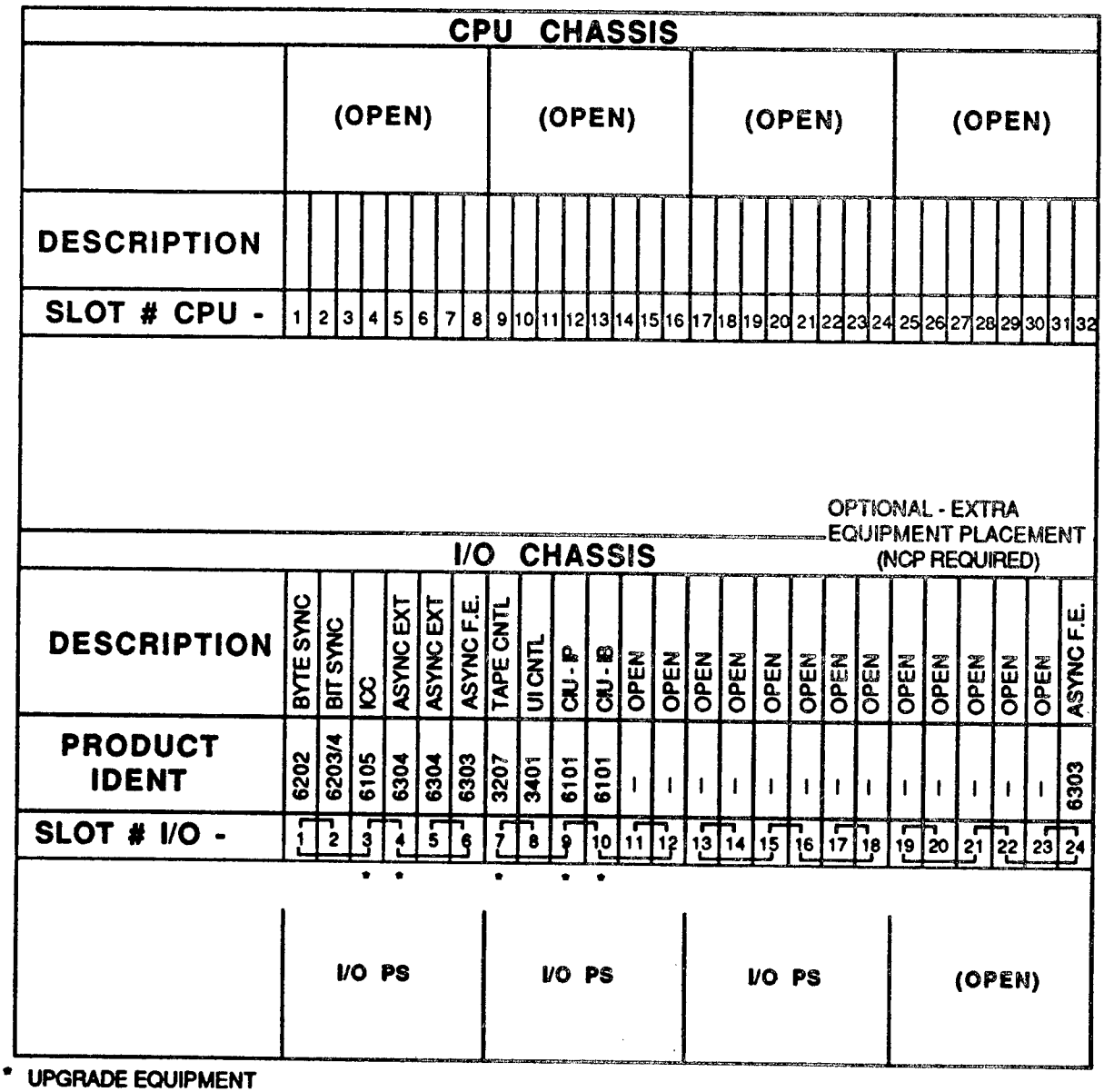
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	-	-	Open
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	53000	6304	Async Extension Board
I/O	20	52990	6303	Async Front End Board
I/O	21	-	-	Open
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 11-3. MIAMI MPS SITE # 11 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 11-4. MIAMI MPS SITE # 11 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

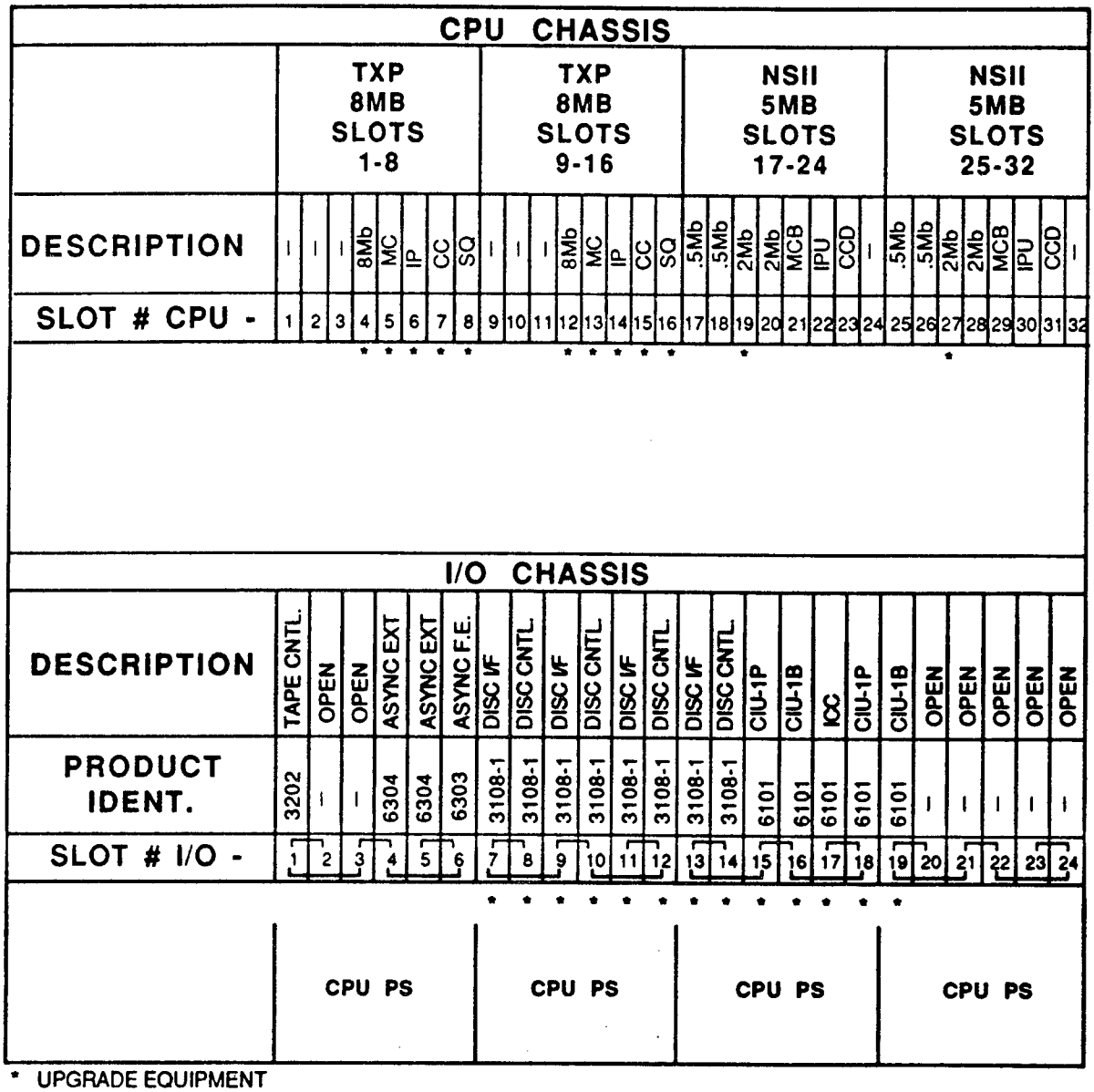
FIGURE 12-1. OAKLAND MPS SITE # 12 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	-	-	Open
CPU	2	54740	-	0.5 Mb Memory
CPU	3	54740	-	0.5 Mb Memory
CPU	4	54740	-	0.5 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	-	-	Open
CPU	10	54740	-	0.5 Mb Memory
CPU	11	54740	-	0.5 Mb Memory
CPU	12	57601	-	0.5 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	57615	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	-	-	Open
CPU	18	57602	-	0.5 Mb Memory
CPU	19	57603	-	0.5 Mb Memory
CPU	20	54740	-	0.5 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 12-2. OAKLAND MPS SITE # 12 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

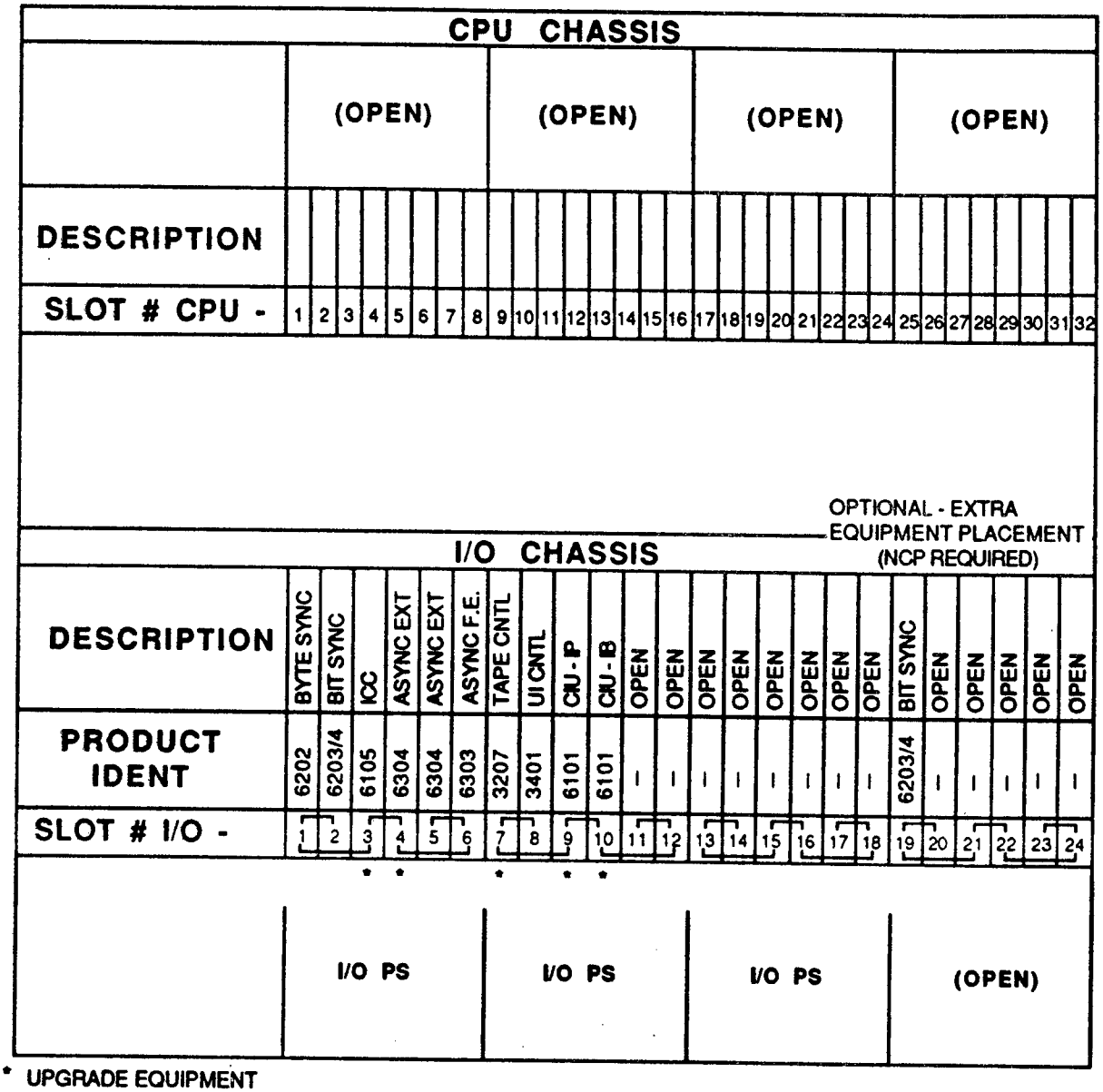
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	-	-	Open
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	51210	3401	UI Controller
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	53570	6203	Bit Sync Controller
I/O	24	53570	6203	Bit Sync Controller

FIGURE 12-3. OAKLAND MPS SITE # 12 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 12-4. OAKLAND MPS SITE # 12 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

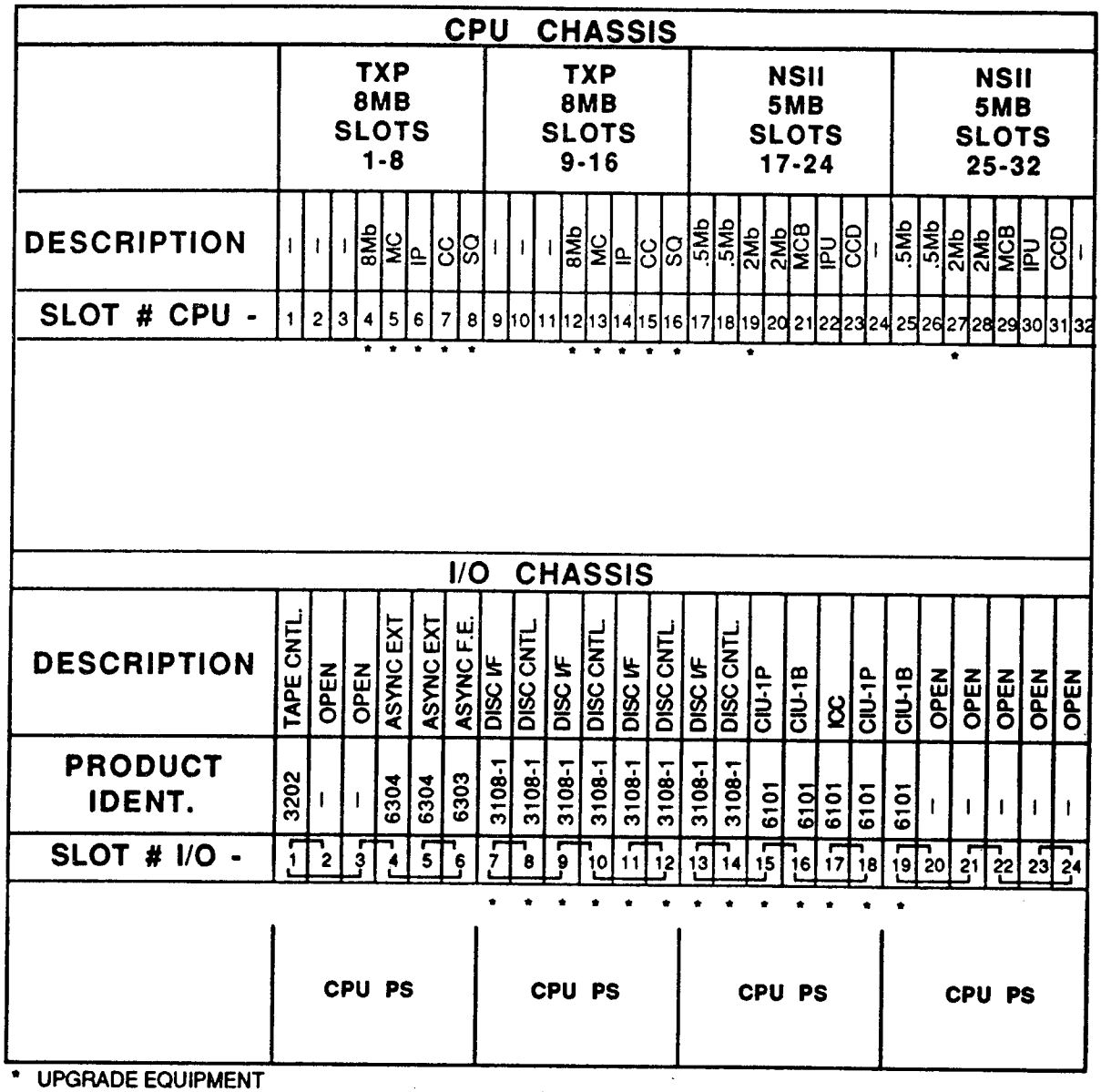
FIGURE 13-1. MEMPHIS MPS SITE # 13 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57603	-	0.5 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57603	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	57613	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57603	-	0.5 Mb Memory
CPU 10	54740	-	0.5 Mb Memory
CPU 11	57603	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	59690	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	54740	-	0.5 Mb Memory
CPU 18	54740	-	0.5 Mb Memory
CPU 19	54740	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 13-2. MEMPHIS MPS SITE # 13 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

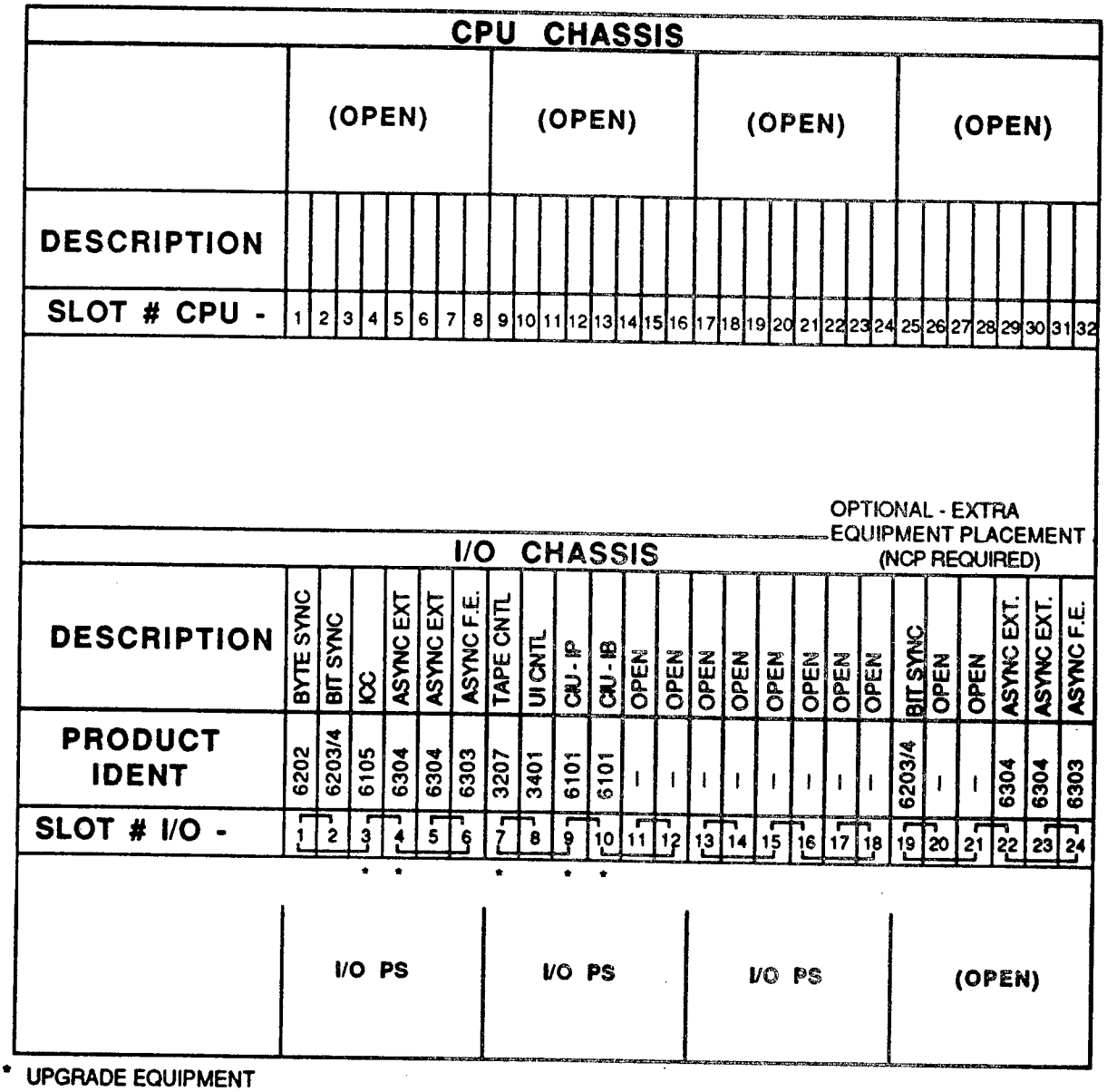
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	40880	3108-1	Disc Interface
I/O	2	40884	3108-1	Disc Controller
I/O	3	40880	3108-1	Disc Interface
I/O	4	40884	3108-1	Disc Controller
I/O	5	58000	3202	Tape Controller
I/O	6	51210	3401	UI Controller
I/O	7	40880	3108-1	Disc Interface
I/O	8	40884	3108-1	Disc Controller
I/O	9	40880	3108-1	Disc Interface
I/O	10	40884	3108-1	Disc Controller
I/O	11	58810	6204	Bit Sync Controller
I/O	12	58810	6204	Bit Sync Controller
I/O	13	53000	6304	Async Extension Board
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	53570	6203	Bit Sync Controller
I/O	17	-	-	Open
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	53000	6304	Async Extension Board
I/O	23	53000	6304	Async Extension Board
I/O	24	52990	6303	Async Front End Board

FIGURE 13-3. MEMPHIS MPS SITE # 13 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 13-4. MEMPHIS MPS SITE # 13 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

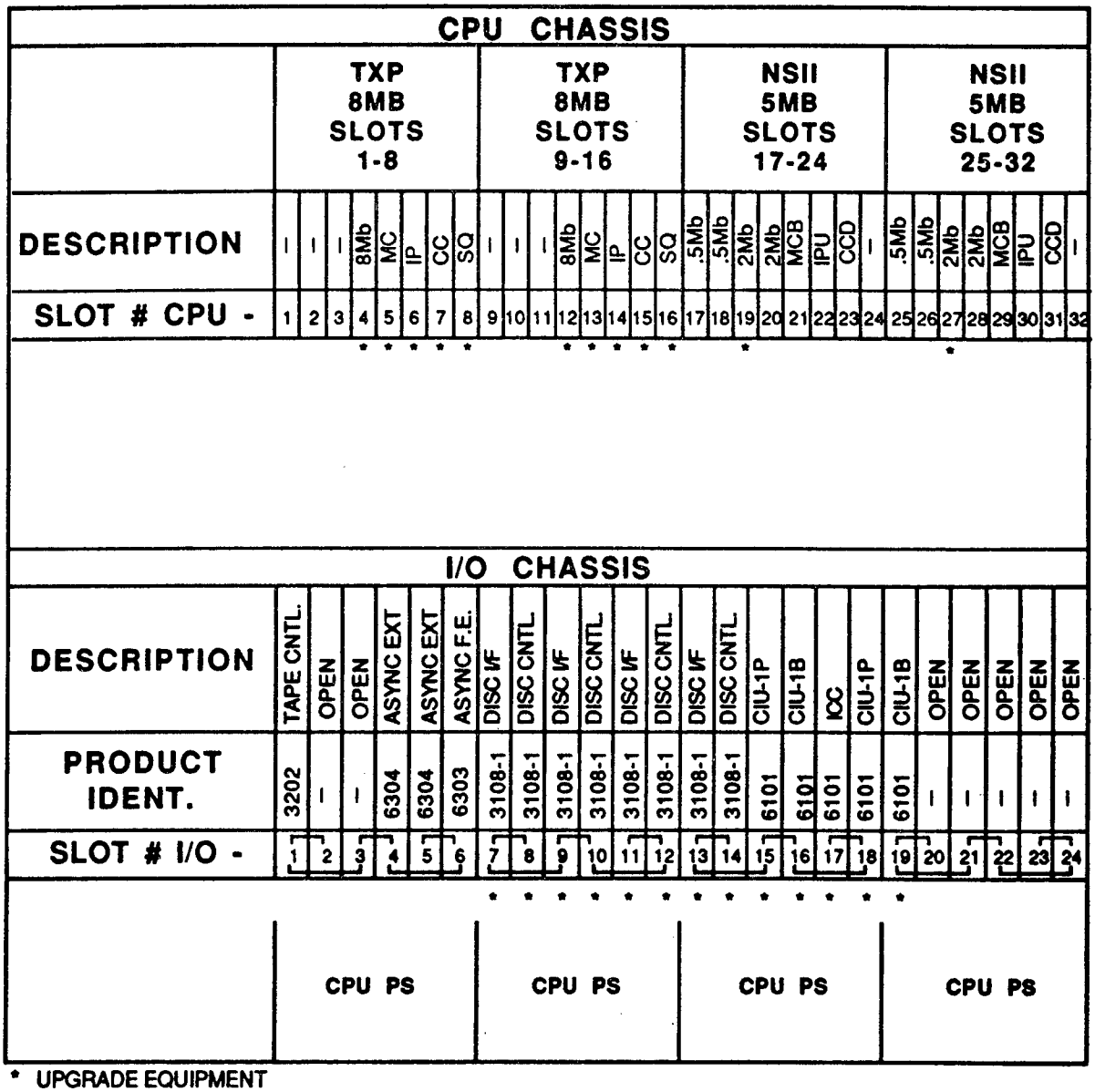
FIGURE 14-1. SEATTLE MPS SITE # 14 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57740	-	2.0 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57601	-	0.5 Mb Memory
CPU 4	57601	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57740	-	2.0 Mb Memory
CPU 10	54740	-	0.5 Mb Memory
CPU 11	57601	-	0.5 Mb Memory
CPU 12	54740	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	59690	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	54740	-	0.5 Mb Memory
CPU 18	54740	-	0.5 Mb Memory
CPU 19	54740	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	59690	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 14-2. SEATTLE MPS SITE # 14 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	-	-	Open
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	51210	3401	UI Controller
I/O	24	-	-	Open

FIGURE 14-3. SEATTLE MPS SITE # 14 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 14-4. SEATTLE MPS SITE # 14 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	(OPEN)								(OPEN)								(OPEN)								(OPEN)							
DESCRIPTION																														
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	ICC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	CIU - A	CIU - B	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	3401	6101	6101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
			*	*			*		*	*																				

	I/O PS	I/O PS	I/O PS	(OPEN)

* UPGRADE EQUIPMENT

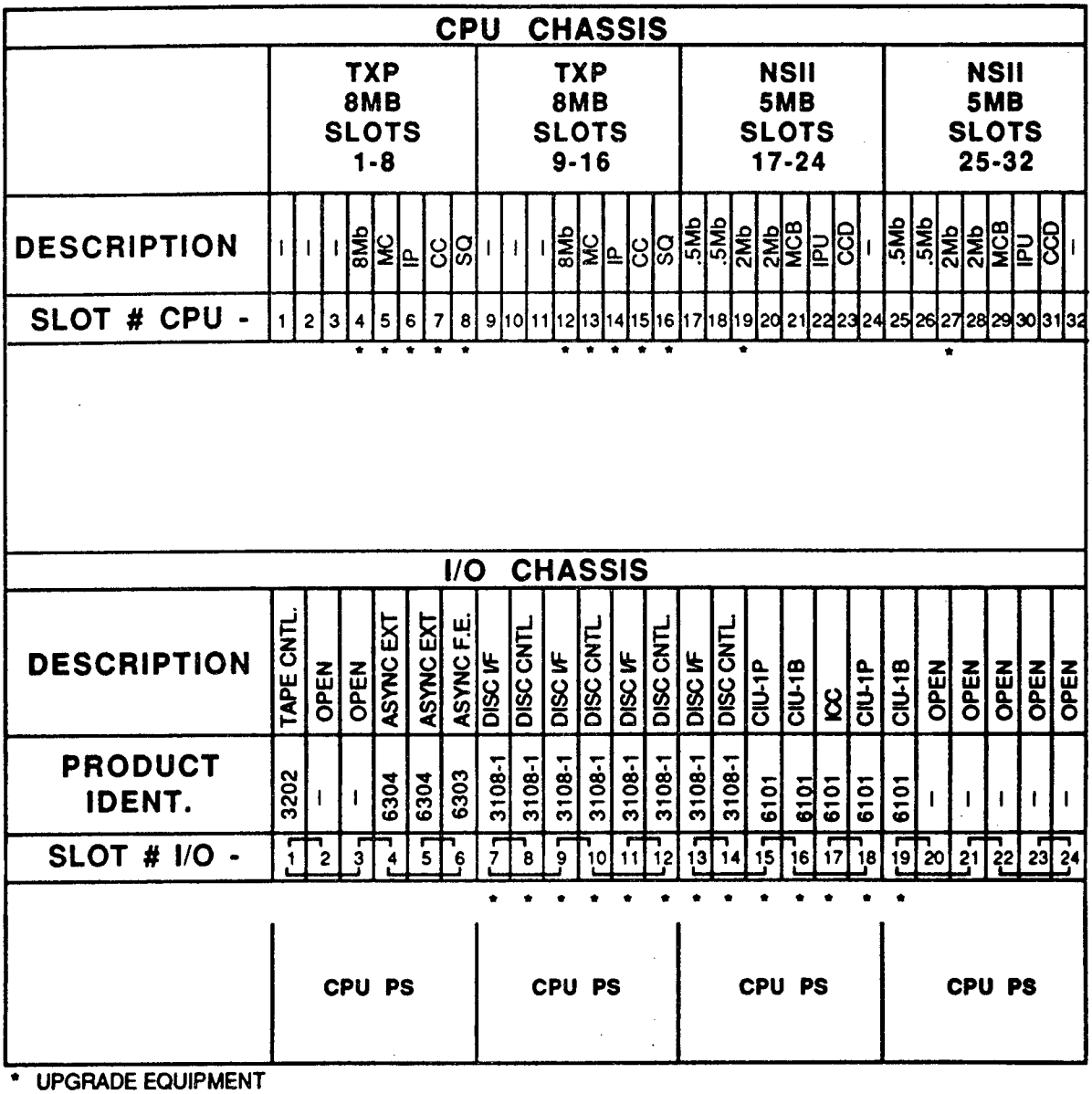
FIGURE 15-1. HONOLULU MPS SITE # 15 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	-	-	Open
CPU	2	54740	-	0.5 Mb Memory
CPU	3	54740	-	0.5 Mb Memory
CPU	4	54740	-	0.5 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	-	-	Open
CPU	10	54740	-	0.5 Mb Memory
CPU	11	54740	-	0.5 Mb Memory
CPU	12	54740	-	0.5 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	54840	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	-	-	Open
CPU	18	54740	-	0.5 Mb Memory
CPU	19	54740	-	0.5 Mb Memory
CPU	20	54740	-	0.5 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 15-2. HONOLULU MPS SITE # 15 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

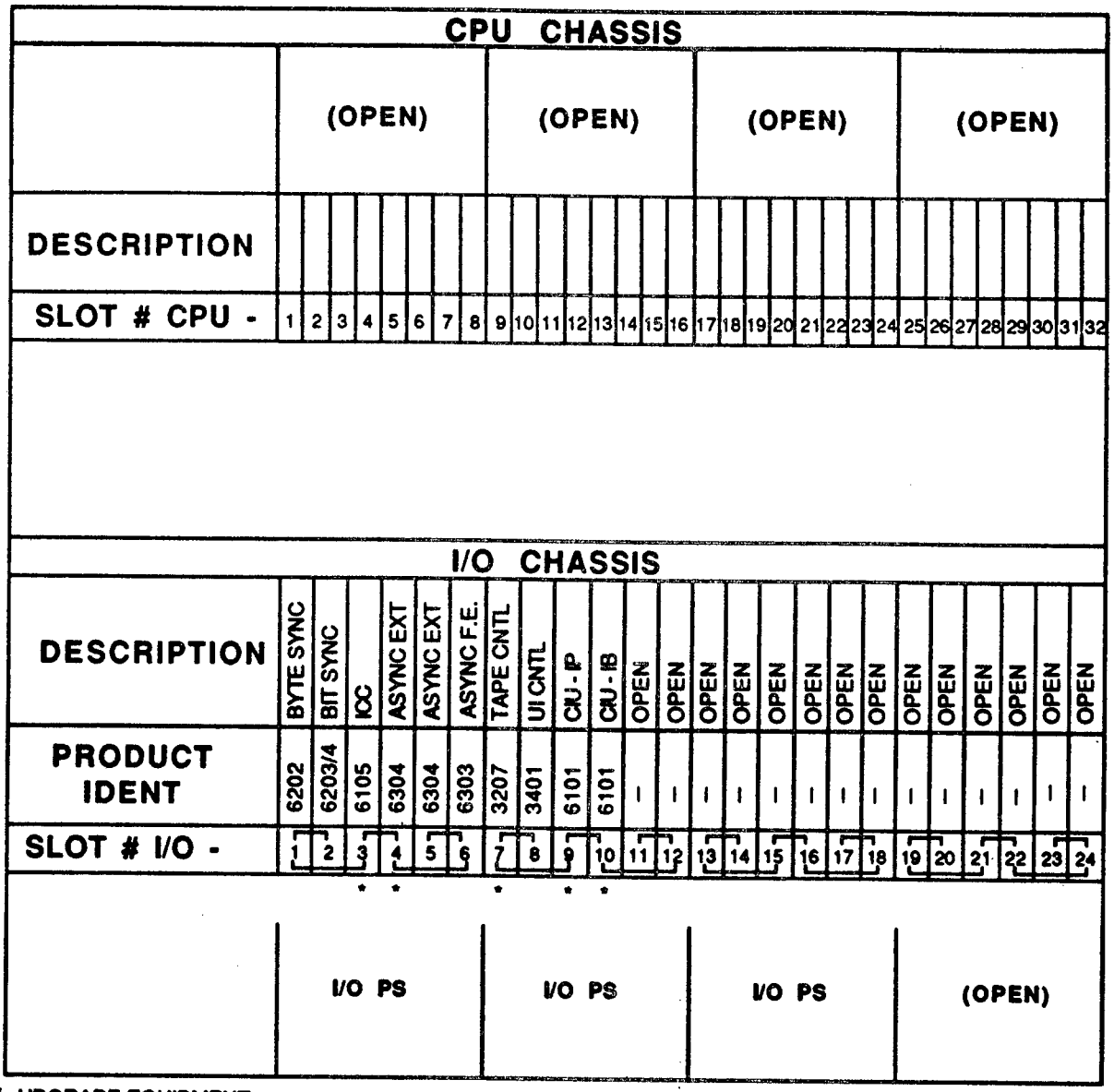
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 15-3. HONOLULU MPS SITE # 15 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 15-4. HONOLULU MPS SITE # 15 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

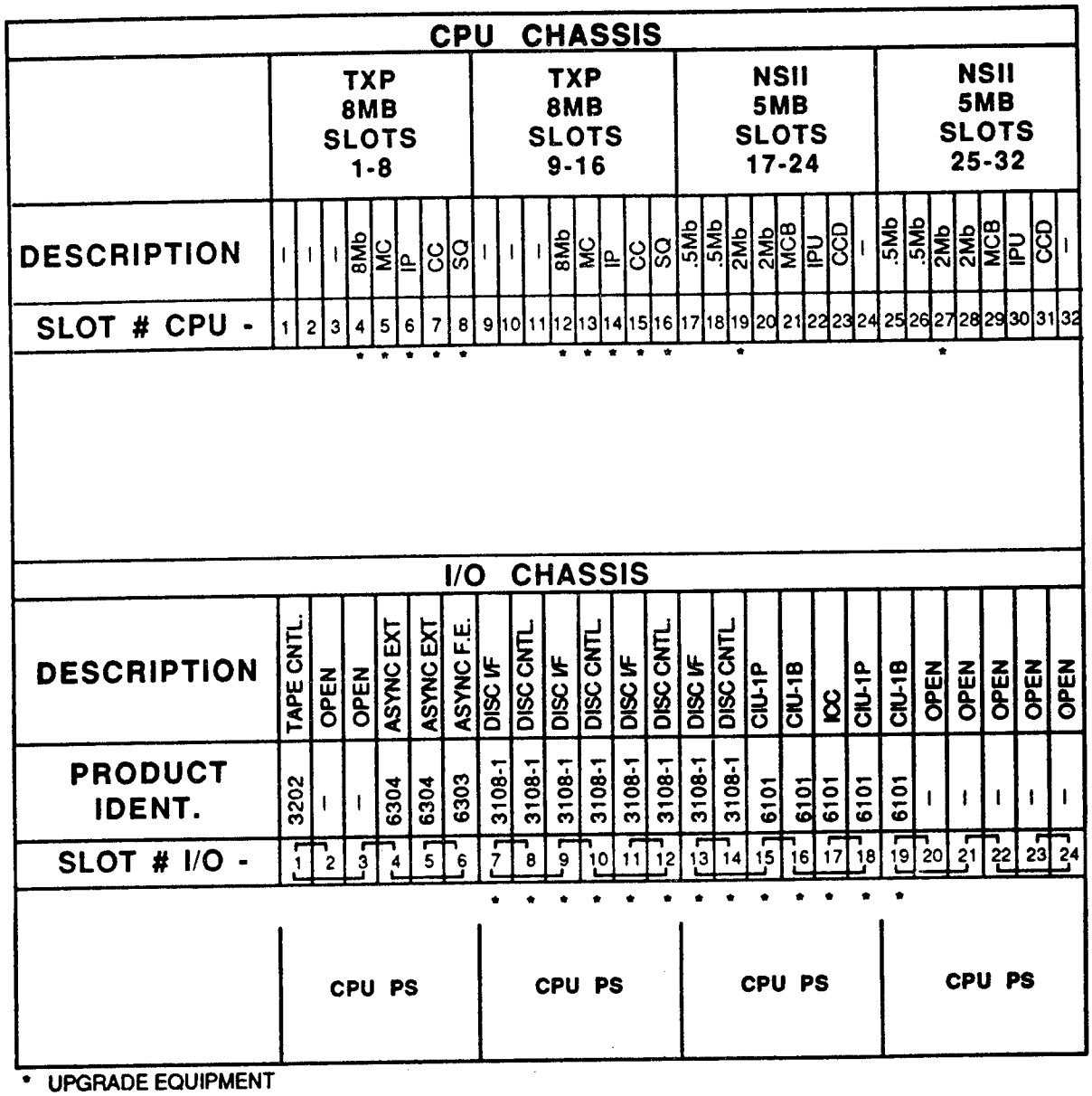
FIGURE 16-1. SALT LAKE CITY MPS SITE # 16 SYSTEM CABINET CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57601	-	0.5 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57603	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57601	-	0.5 Mb Memory
CPU 10	54740	-	0.5 Mb Memory
CPU 11	57603	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	59690	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	54740	-	0.5 Mb Memory
CPU 18	54740	-	0.5 Mb Memory
CPU 19	54740	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 16-2. SALT LAKE CITY MPS SITE # 16 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

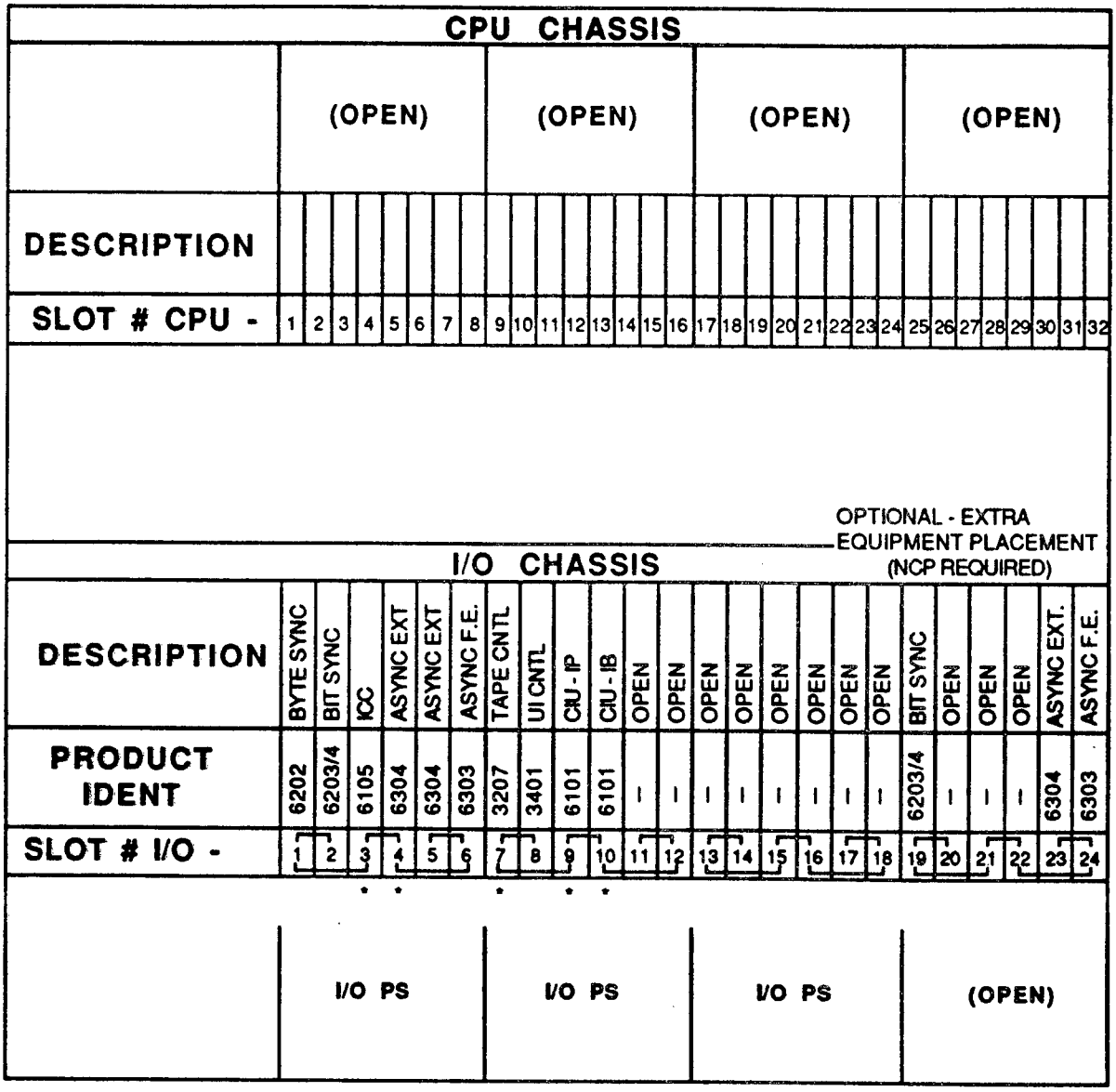
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	53570	6203	Bit Sync Controller

FIGURE 16-3. SALT LAKE CITY MPS SITE # 16 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 16-4. SALT LAKE CITY MPS SITE # 16 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

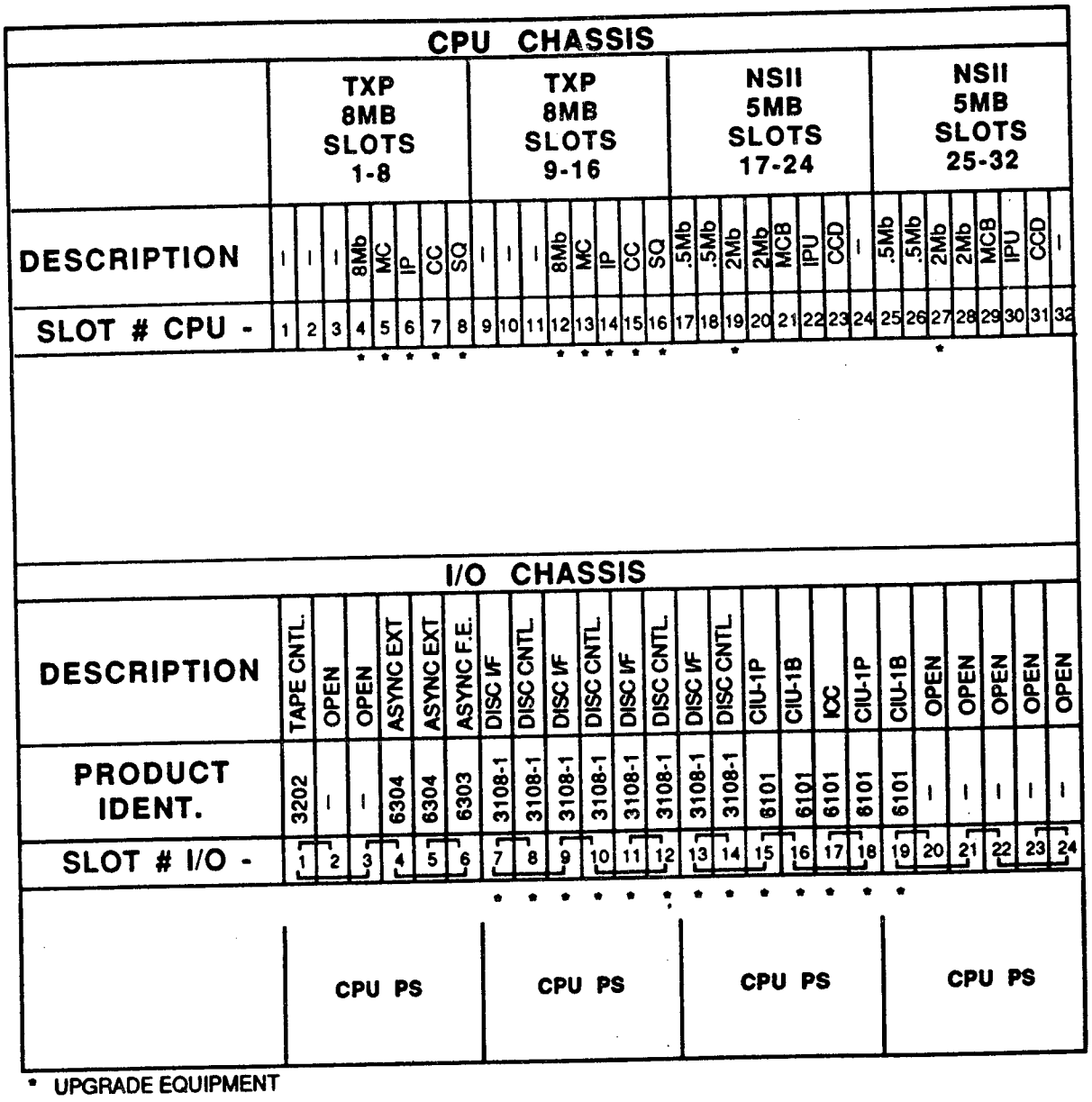
FIGURE 17-1. DENVER MPS SITE # 17 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	54740	-	0.5 Mb Memory
CPU	2	54740	-	0.5 Mb Memory
CPU	3	54740	-	0.5 Mb Memory
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	54740	-	0.5 Mb Memory
CPU	10	54740	-	0.5 Mb Memory
CPU	11	54740	-	0.5 Mb Memory
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	54840	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	54740	-	0.5 Mb Memory
CPU	18	54740	-	0.5 Mb Memory
CPU	19	54740	-	0.5 Mb Memory
CPU	20	57740	-	2.0 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 17-2. DENVER MPS SITE # 17 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

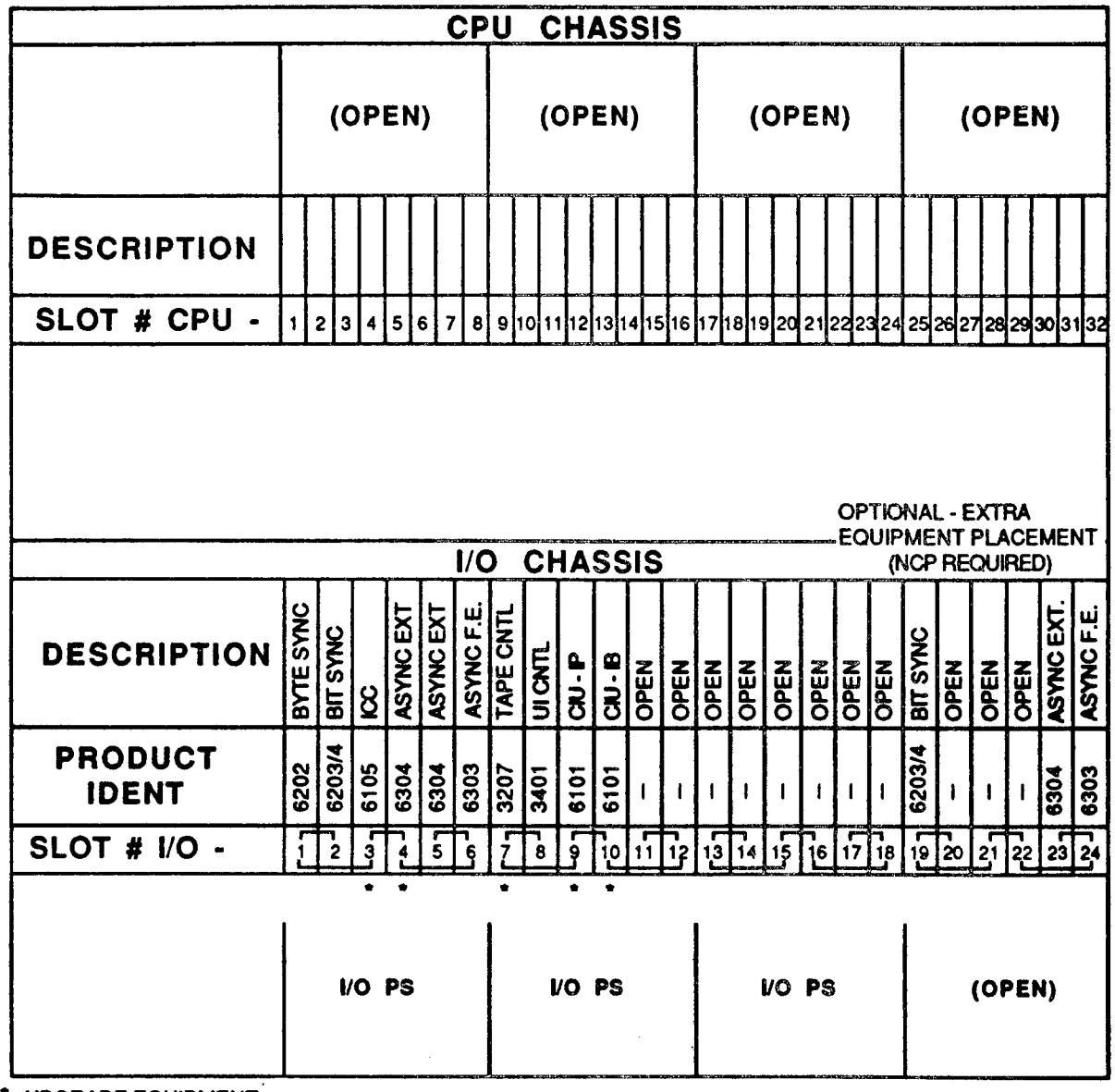
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	-	-	Open
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	53570	6203	Bit Sync Controller
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	51210	3401	UI Controller
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 17-3. DENVER MPS SITE # 17 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 17-4. DENVER MPS SITE # 17 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

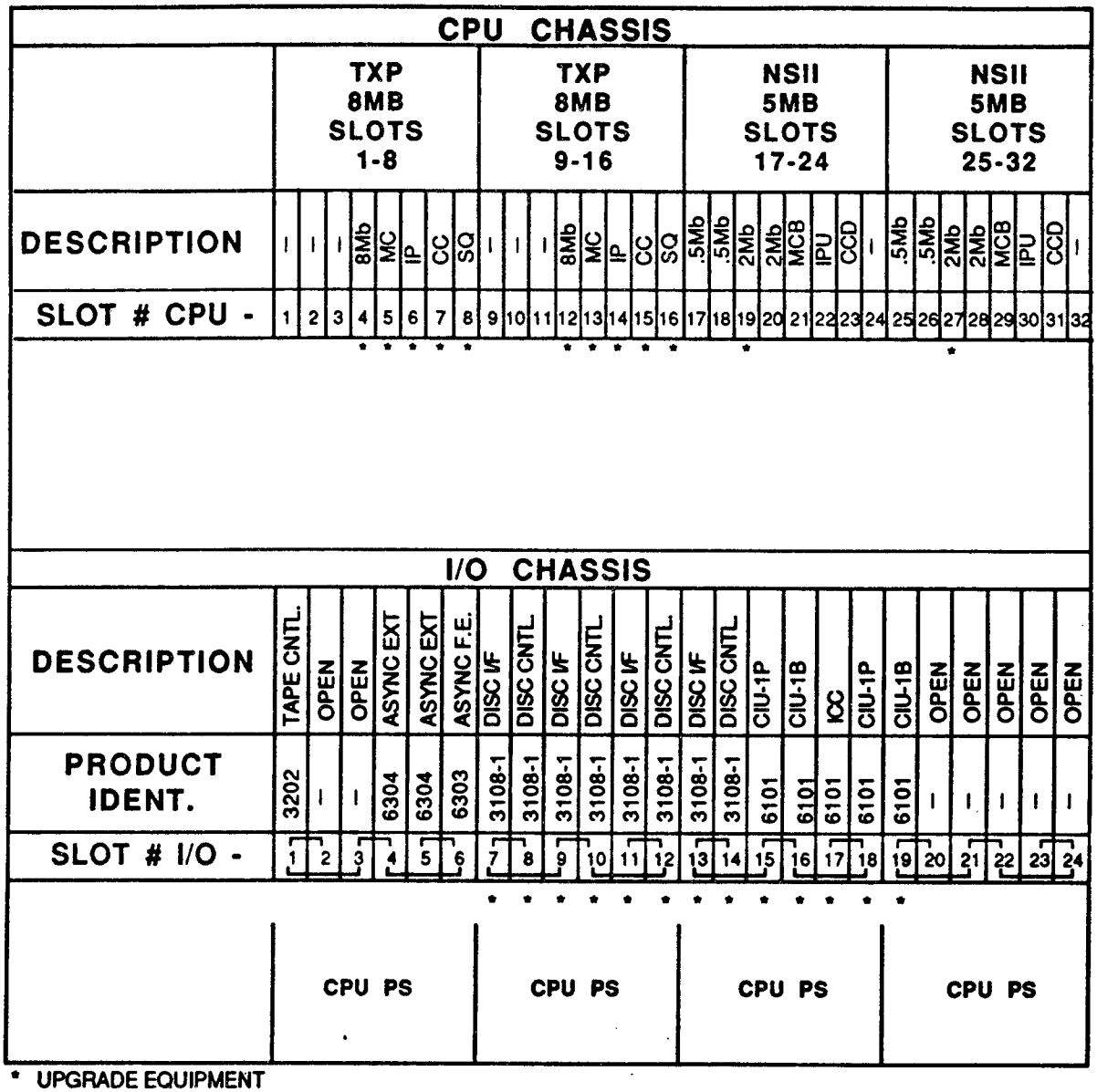
FIGURE 18-1. MINNEAPOLIS MPS SITE # 18 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57603	-	0.5 Mb Memory
CPU 2	57601	-	0.5 Mb Memory
CPU 3	54740	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57602	-	0.5 Mb Memory
CPU 10	57603	-	0.5 Mb Memory
CPU 11	54740	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57613	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	54740	-	0.5 Mb Memory
CPU 18	54740	-	0.5 Mb Memory
CPU 19	54740	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 18-2. MINNEAPOLIS MPS SITE # 18 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

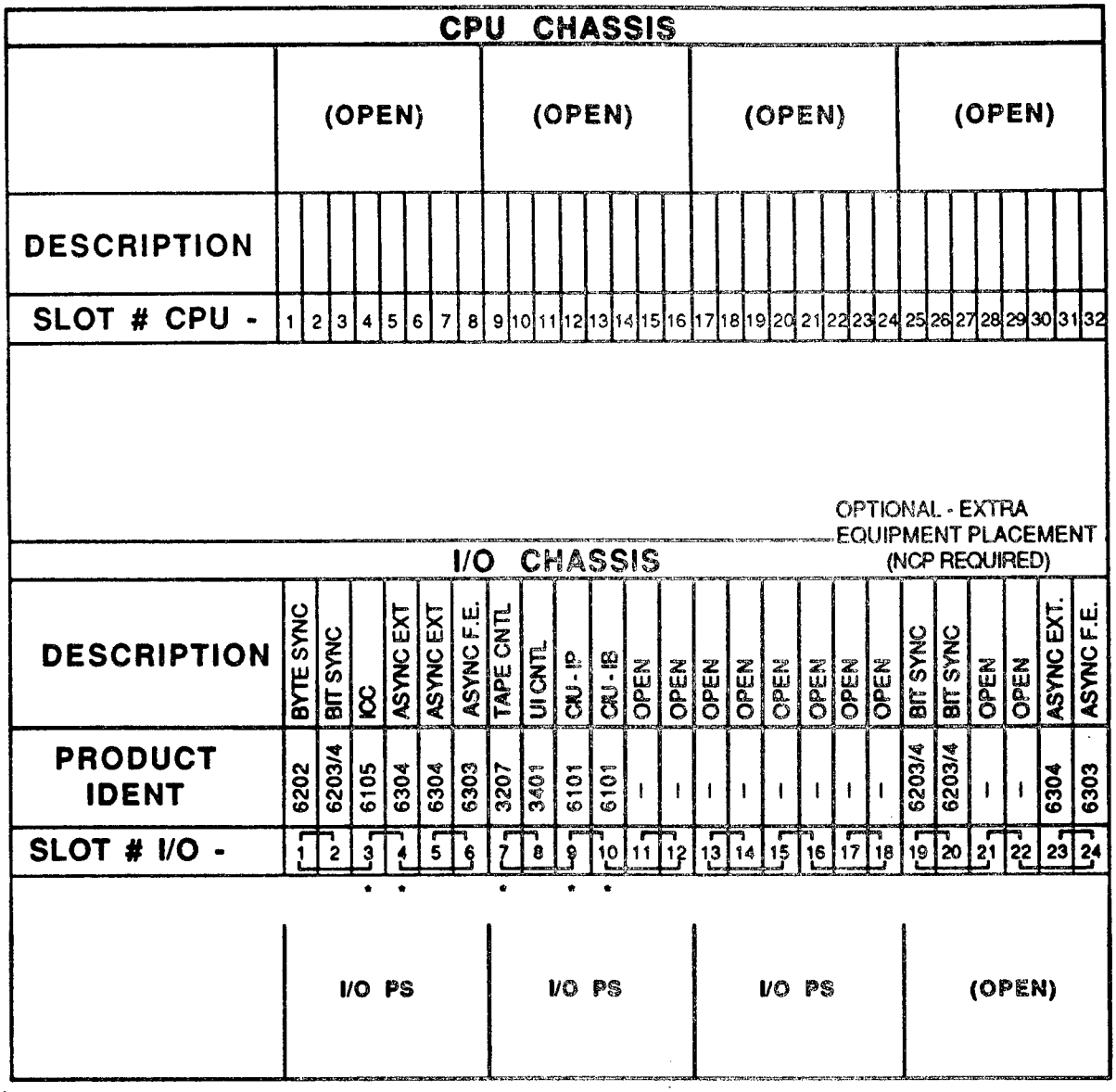
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	58810	6204	Bit Sync Controller
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	58810	6204	Bit Sync Controller

FIGURE 18-3. MINNEAPOLIS MPS SITE # 18 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 18-4. MINNEAPOLIS MPS SITE # 18 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

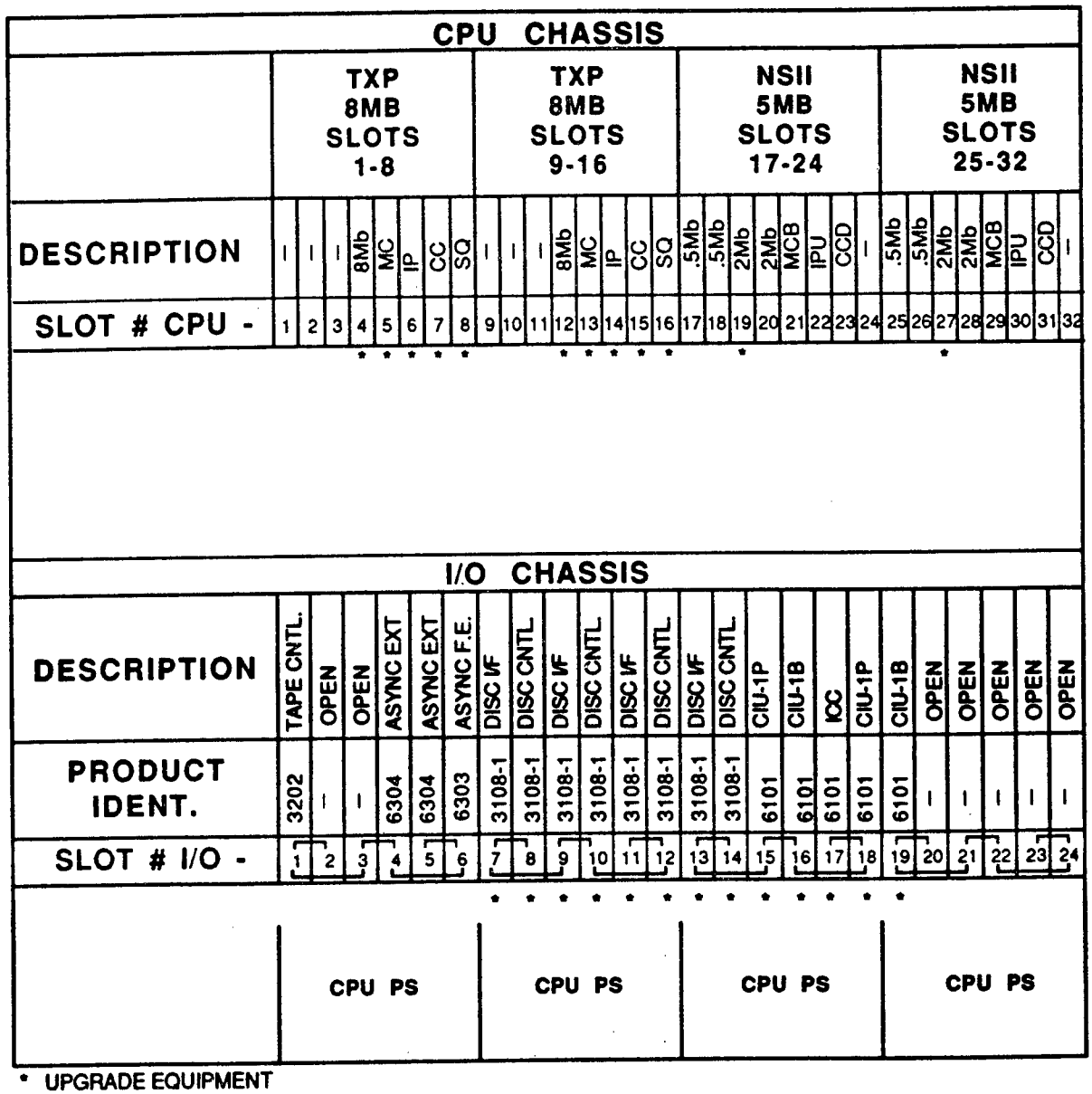
FIGURE 19-1. INDIANAPOLIS MPS SITE # 19 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57740	-	2.0 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57601	-	0.5 Mb Memory
CPU 4	57603	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57740	-	2.0 Mb Memory
CPU 10	57603	-	0.5 Mb Memory
CPU 11	57603	-	0.5 Mb Memory
CPU 12	57603	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	57740	-	2.0 Mb Memory
CPU 18	57601	-	0.5 Mb Memory
CPU 19	57603	-	0.5 Mb Memory
CPU 20	57603	-	0.5 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	57612	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 19-2. INDIANAPOLIS MPS SITE # 19 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 19-3. INDIANAPOLIS MPS SITE # 19 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 19-4. INDIANAPOLIS MPS SITE # 19 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	(OPEN)	(OPEN)	(OPEN)	(OPEN)
DESCRIPTION				
SLOT # CPU -	1 2 3 4 5 6 7 8	9 10 11 12 13 14 15 16	17 18 19 20 21 22 23 24	25 26 27 28 29 30 31 32

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	IOC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	CIU - IP	CIU - IB	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	3401	6101	6101	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SLOT # I/O -	1 2		3	4	5 6		7	8	9	10	11 12		13 14		15 16		17 18		19 20		21 22		23 24	
			*	*			*		*	*														
	I/O PS						I/O PS						I/O PS						(OPEN)					

* UPGRADE EQUIPMENT

FIGURE 20-1. CLEVELAND MPS SITE # 20 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	57601	-	0.5 Mb Memory
CPU	2	54740	-	0.5 Mb Memory
CPU	3	57603	-	0.5 Mb Memory
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	57613	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	57603	-	0.5 Mb Memory
CPU	10	57603	-	0.5 Mb Memory
CPU	11	57602	-	0.5 Mb Memory
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	59690	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	57603	-	0.5 Mb Memory
CPU	18	57601	-	0.5 Mb Memory
CPU	19	57602	-	0.5 Mb Memory
CPU	20	57740	-	2.0 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 20-2. CLEVELAND MPS SITE # 20 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	52020	3202	Tape Controller
I/O 2	-	-	Open
I/O 3	-	-	Open
I/O 4	53000	6304	Async Extension Board
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	55930	3106	Disc Controller SCU I/F
I/O 8	55900	3106	Disc Controller Channel I/F
I/O 9	55930	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	53570	6203	Bit Sync Controller
I/O 12	51210	3401	UI Controller
I/O 13	-	-	Open
I/O 14	-	-	Open
I/O 15	-	-	Open
I/O 16	-	-	Open
I/O 17	59210	6202	Byte Sync Controller
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	58810	6204	Bit Sync Controller
I/O 23	-	-	Open
I/O 24	-	-	Open

FIGURE 20-3. CLEVELAND MPS SITE # 20 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	TXP 8MB SLOTS 1-8								TXP 8MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	–	–	–	8Mb	MC	IP	CC	SQ	–	–	–	8Mb	MC	IP	CC	SQ	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				*	*	*	*	*				*	*	*	*	*			*								*					

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	OPEN	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL	DISC I/F	DISC CNTL	DISC I/F	DISC CNTL.	CIU-1P	CIU-1B	CIU-1B	ICC	CIU-1P	CIU-1B	OPEN	OPEN	OPEN	OPEN	OPEN	
PRODUCT IDENT.	3202	–	–	6304	6304	6303	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	6101	6101	6101	6101	6101	6101	–	–	–	–	–	–
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
							*	*	*	*	*	*	*	*	*	*	*	*	*													
	CPU PS						CPU PS						CPU PS							CPU PS												

* UPGRADE EQUIPMENT

FIGURE 20-4. CLEVELAND MPS SITE # 20 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	(OPEN)	(OPEN)	(OPEN)	(OPEN)
DESCRIPTION				
SLOT # CPU -	1 2 3 4 5 6 7 8	9 10 11 12 13 14 15 16	17 18 19 20 21 22 23 24	25 26 27 28 29 30 31 32

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	IOC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	CIU - IP	CIU - IB	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	3401	6101	6101														
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
			*	*			*		*	*														
	I/O PS						I/O PS						I/O PS				(OPEN)							

* UPGRADE EQUIPMENT

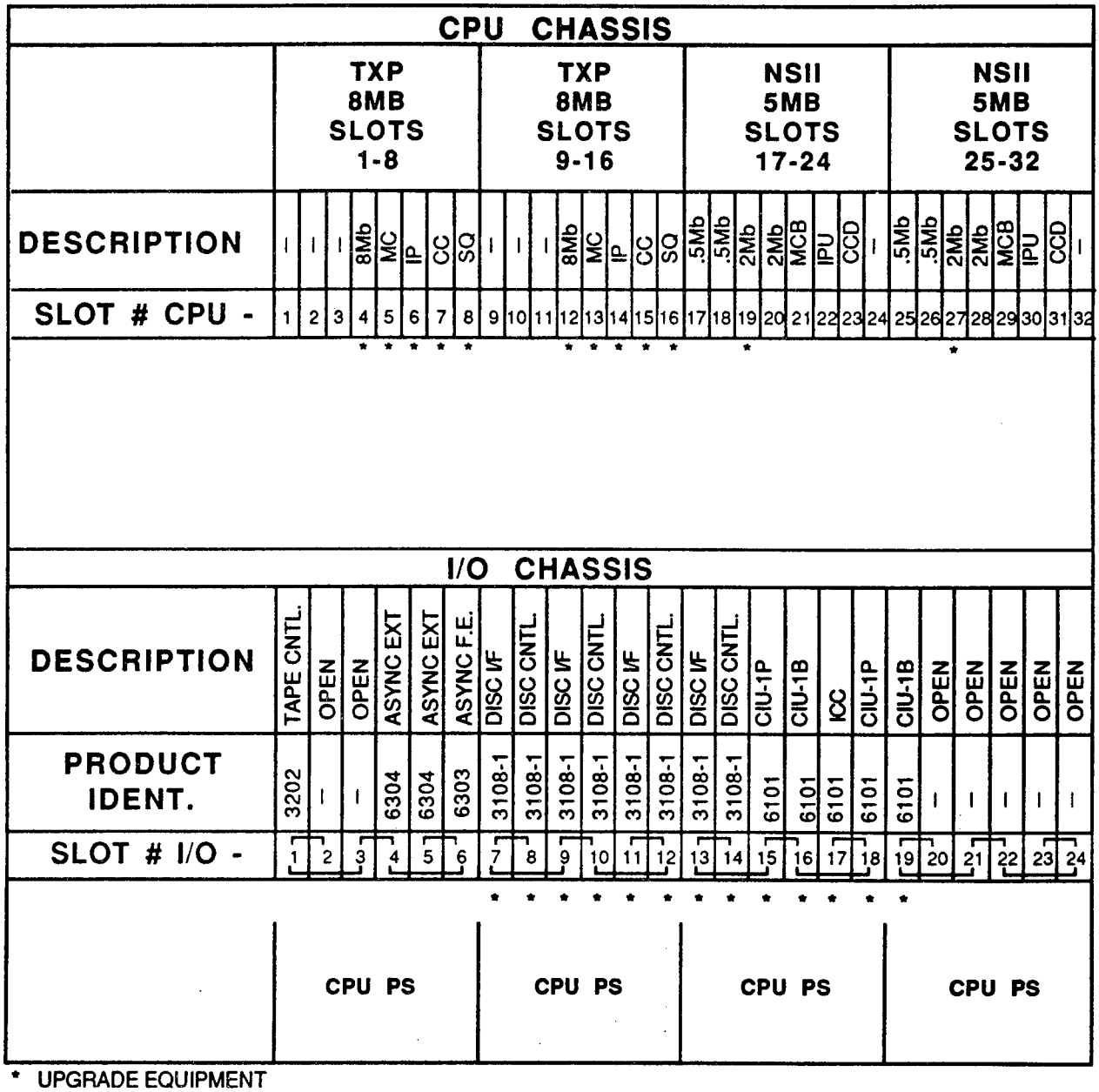
FIGURE 21-1. WASHINGTON (LEESBURG) MPS SITE # 21 SYSTEM CABINET CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57601	-	0.5 Mb Memory
CPU 2	57603	-	0.5 Mb Memory
CPU 3	57603	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57603	-	0.5 Mb Memory
CPU 10	57602	-	0.5 Mb Memory
CPU 11	57603	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	57603	-	0.5 Mb Memory
CPU 18	57603	-	0.5 Mb Memory
CPU 19	57603	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 21-2. WASHINGTON (LEESBURG) MPS SITE # 21 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

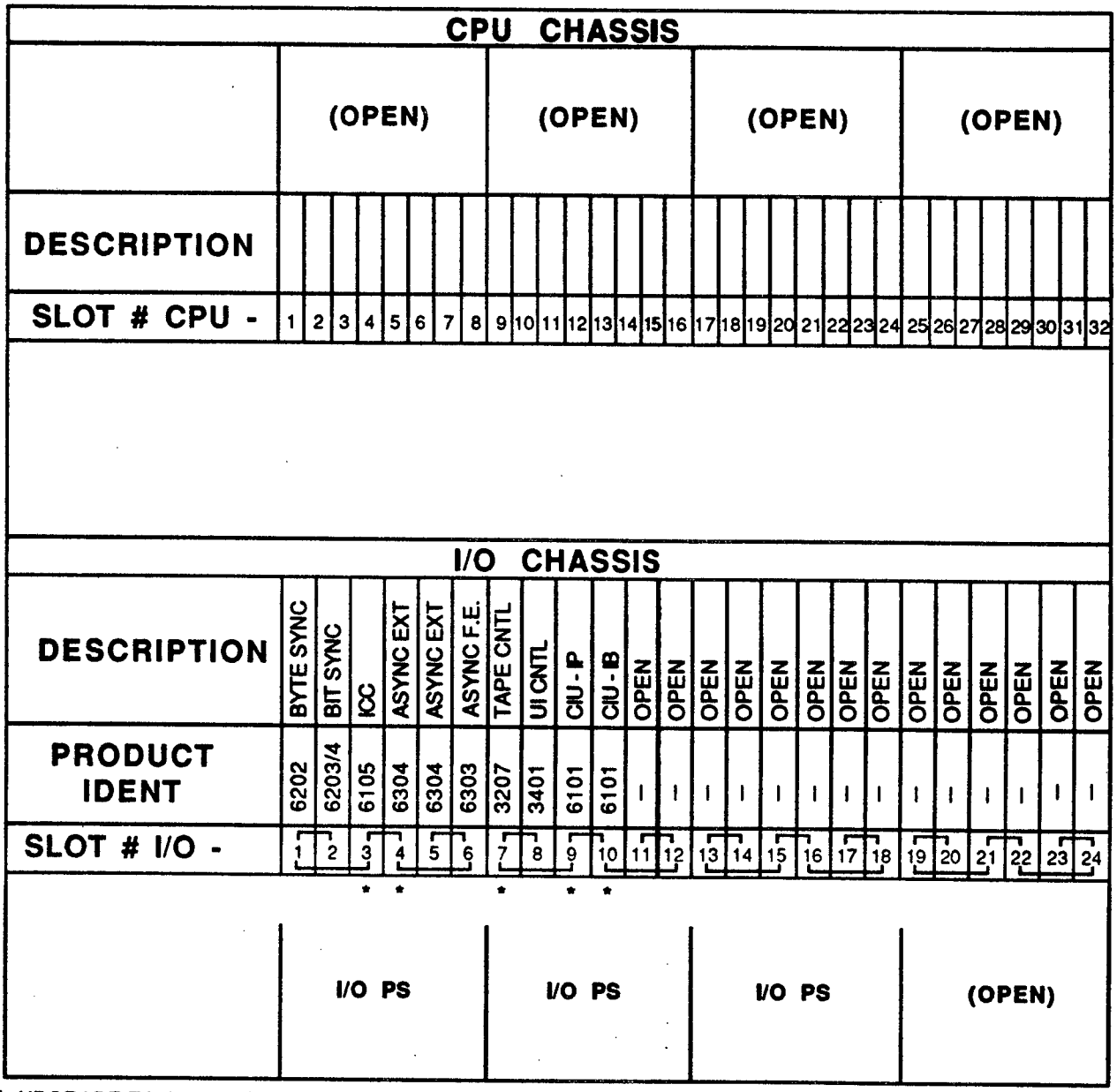
SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	-	-	Open
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55820	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55820	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	51210	3401	UI Controller
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 21-3. WASHINGTON (LEESBURG) MPS SITE # 21 SYSTEM CABINET 1 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 21-4. WASHINGTON (LEESBURG) MPS SITE # 21 SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

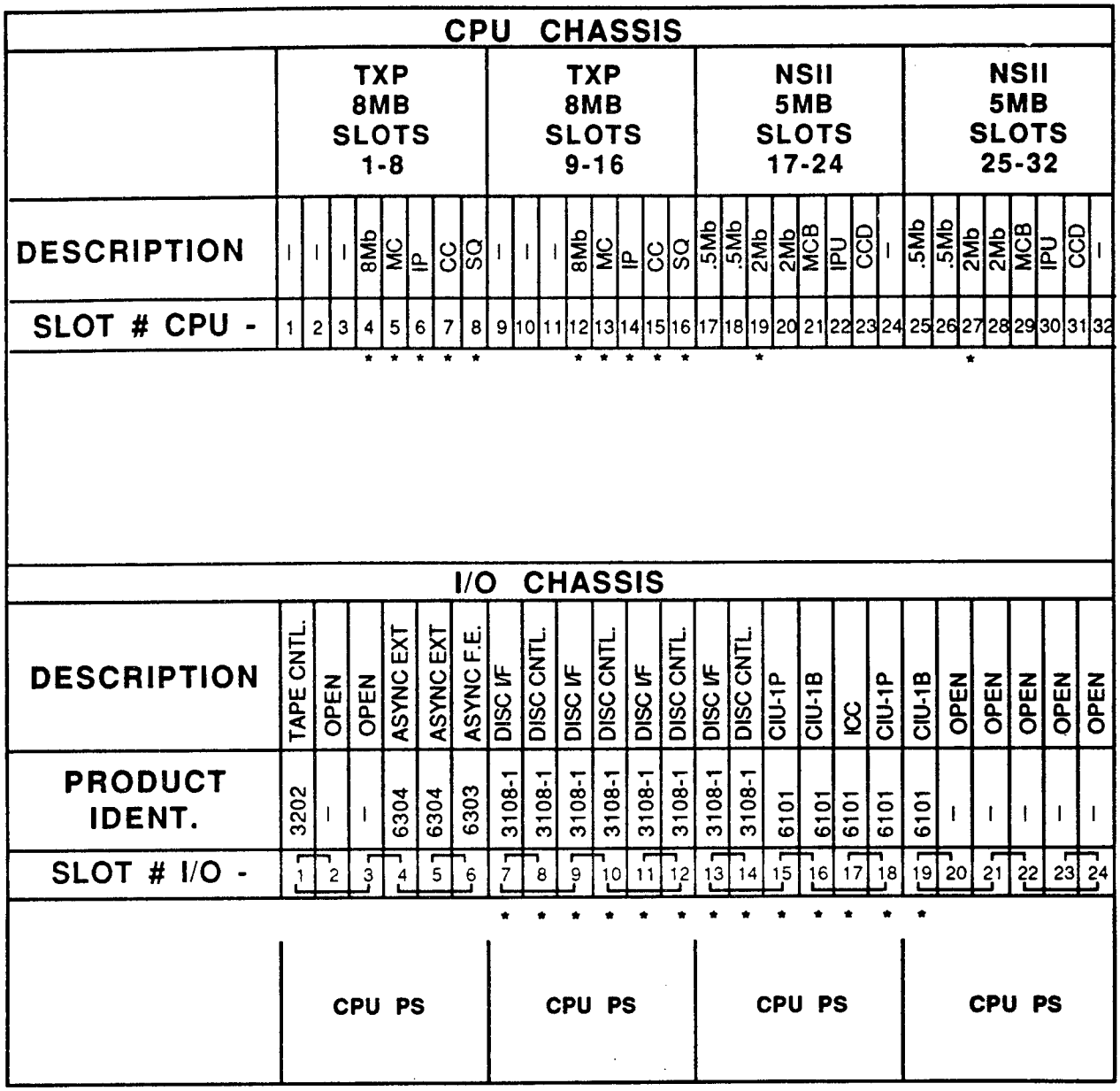
FIGURE 22-1. NEW YORK MPS SITE # 22 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	57603	-	0.5 Mb Memory
CPU	2	57603	-	0.5 Mb Memory
CPU	3	57601	-	0.5 Mb Memory
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	59690	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	57602	-	0.5 Mb Memory
CPU	10	57603	-	0.5 Mb Memory
CPU	11	57603	-	0.5 Mb Memory
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	59690	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	54740	-	0.5 Mb Memory
CPU	18	57603	-	0.5 Mb Memory
CPU	19	57603	-	0.5 Mb Memory
CPU	20	57740	-	2.0 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 22-2. NEW YORK MPS SITE # 22 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	55840	6202	Byte Sync Controller
I/O	18	59210	6202	Byte Sync Controller
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	53570	6203	Bit Sync Controller

FIGURE 22-3. NEW YORK MPS SITE # 22 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 22-4. NEW YORK MPS SITE # 22 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	(OPEN)	(OPEN)	(OPEN)	(OPEN)
DESCRIPTION				
SLOT # CPU -	1 2 3 4 5 6 7 8	9 10 11 12 13 14 15 16	17 18 19 20 21 22 23 24	25 26 27 28 29 30 31 32

OPTIONAL - EXTRA EQUIPMENT PLACEMENT (NCP REQUIRED)

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	ICC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	CIU - IP	CIU - IB	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	BYTE SYNC	OPEN	OPEN	OPEN
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	3401	6101	6101	—	—	—	—	—	—	—	—	—	—	6202	—	—	—
SLOT # I/O -	1 2		3	4	5	6	7	8	9	10	11 12		13 14		15 16		17 18		19 20		21 22		23 24	
			*	*			*		*	*														

	I/O PS	I/O PS	I/O PS	(OPEN)

* UPGRADE EQUIPMENT

FIGURE 23-1. BOSTON MPS SITE # 23 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	57603	-	0.5 Mb Memory
CPU	2	57601	-	0.5 Mb Memory
CPU	3	57601	-	0.5 Mb Memory
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	57612	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	57603	-	0.5 Mb Memory
CPU	10	57602	-	0.5 Mb Memory
CPU	11	57601	-	0.5 Mb Memory
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	59690	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	57603	-	0.5 Mb Memory
CPU	18	57602	-	0.5 Mb Memory
CPU	19	54740	-	0.5 Mb Memory
CPU	20	57740	-	2.0 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	54840	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 23-2. BOSTON MPS SITE # 23 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	53570	6203	Bit Sync Controller
I/O	23	53570	6203	Bit Sync Controller
I/O	24	-	-	Open

FIGURE 23-3. BOSTON MPS SITE # 23 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	TXP 8MB SLOTS 1-8								TXP 8MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	–	–	–	8Mb	MC	IP	CC	SQ	–	–	–	8Mb	MC	IP	CC	SQ	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				*	*	*	*	*				*	*	*	*	*			*								*					

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	OPEN	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	CIU-1P	CIU-1B	ICC	CIU-1P	CIU-1B	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT.	3202	–	–	6304	6304	6303	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	6101	6101	6101	6101	6101	–	–	–	–	–
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
							*	*	*	*	*	*	*	*	*	*	*	*	*					

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

FIGURE 23-4. BOSTON MPS SITE # 23 SYSTEM CABINET 2
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	(OPEN)	(OPEN)	(OPEN)	(OPEN)
DESCRIPTION				
SLOT # CPU -	1 2 3 4 5 6 7 8	9 10 11 12 13 14 15 16	17 18 19 20 21 22 23 24	25 26 27 28 29 30 31 32

OPTIONAL - EXTRA EQUIPMENT PLACEMENT (NCP REQUIRED)

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	ICC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	CIU - IP	CIU - IB	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	ASYNC EXT.	ASYNC F.E.
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	3401	6101	6101	—	—	—	—	—	—	—	—	—	—	—	—	6304	6303
SLOT # I/O -	1 2		3	4	5	6	7	8	9	10	11 12		13 14		15	16	17	18	19 20		21	22	23	24
			*	*			*		*	*														

I/O PS	I/O PS	I/O PS	(OPEN)

* UPGRADE EQUIPMENT

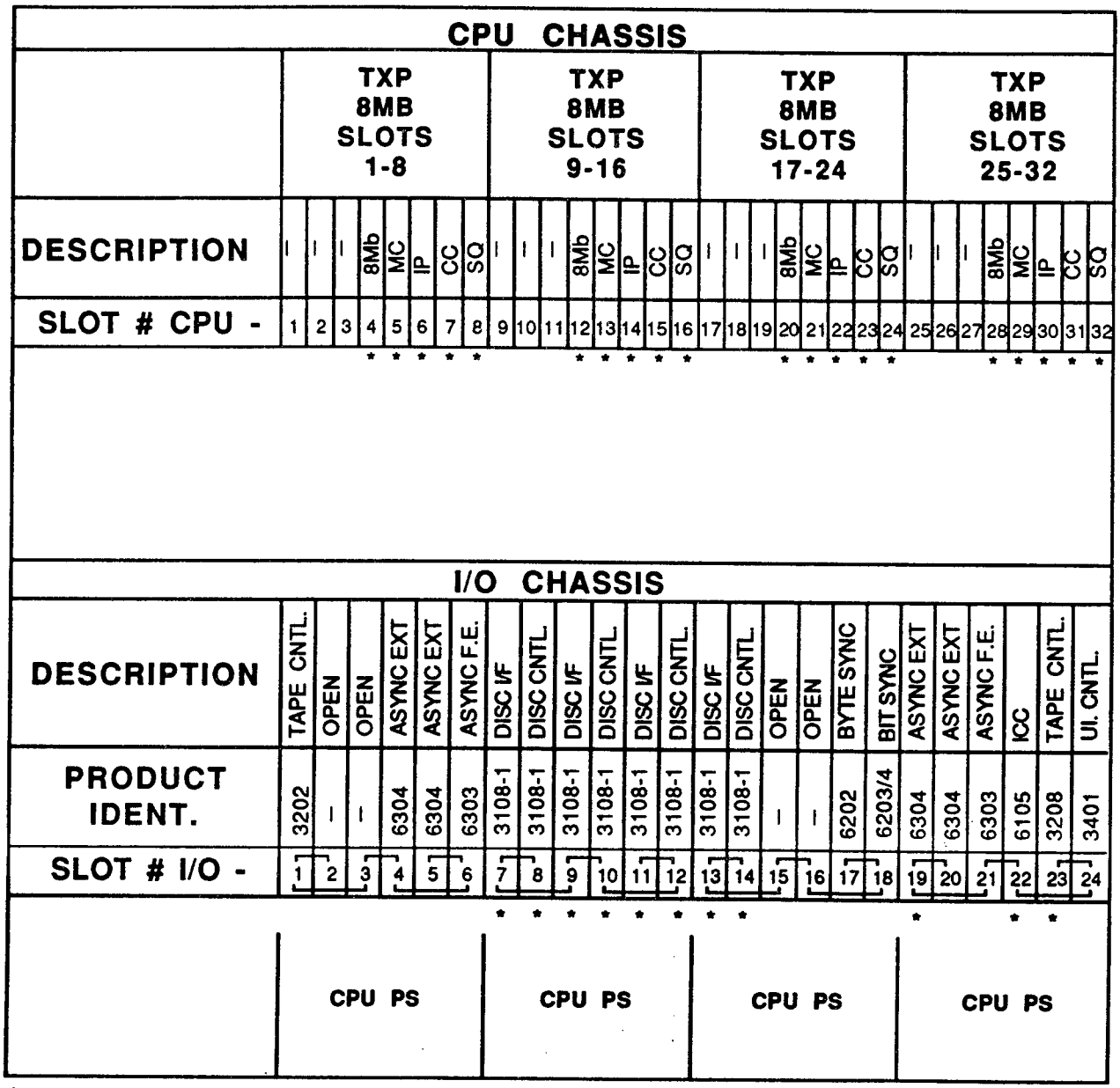
FIGURE 24-1. FAA HEADQUARTERS MPS SITE # 24 SYSTEM CABINET CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	-	-	Open
CPU 3	41870	-	4.0 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	-	-	Open
CPU 11	41870	-	4.0 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	41870	-	4.0 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 24-2. FAA HEADQUARTERS MPS SITE # 24 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	53000	6304	Async Extension Board
I/O	2	53000	6304	Async Extension Board
I/O	3	52990	6306	Async Board
I/O	4	52020	3202	Tape Controller
I/O	5	55820	3107	Disc Controller SCU I/F
I/O	6	59980	3107	Disc Controller Channel I/F
I/O	7	55820	3107	Disc Controller SCU I/F
I/O	8	59980	3107	Disc Controller Channel I/F
I/O	9	59210	6202	Byte Sync Controller
I/O	10	59210	6202	Byte Sync Controller
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	58810	6204	Bit Sync Controller
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	51210	3401	UI Controller
I/O	17	55930	3107	Disc Controller SCU I/F
I/O	18	59980	3107	Disc Controller Channel I/F
I/O	19	55930	3107	Disc Controller SCU I/F
I/O	20	59980	3107	Disc Controller Channel I/F
I/O	21	58810	6204	Bit Sync Controller
I/O	22	-	-	Open
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 24-3. FAA HEADQUARTERS MPS SITE # 24 SYSTEM CABINET 1
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 24-4. FAA HEADQUARTERS MPS SITE # 24 SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	NSII 6MB SLOTS 1-8								NSII 6MB SLOTS 9-16								NSII 6MB SLOTS 17-24								(OPEN)							
DESCRIPTION	-	-	4Mb	2Mb	MCB	IPU	CCD	-	-		4Mb	2Mb	MCB	IPU	CCD	-	-	-	4Mb	2Mb	MCB	IPU	CCD	-								
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

I/O CHASSIS

DESCRIPTION	ICC	ICC	ICC	ASYNC	ASYNC	OPEN	BIT SYNC	ASYNC	ASYNC	OPEN	DISC I/F	DISC CNTL	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	OPEN	BYTE SYNC	OPEN	OPEN	OPEN
PRODUCT IDENT	6105	6105	6105	6106	6106	-	6203/4	6106	6106	-	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	-	-	6202	-	-	-
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	*	*	*	*	*			*	*		*	*	*	*	*	*	*	*						

CPU PS	CPU PS	CPU PS	(OPEN)

* UPGRADE EQUIPMENT

FIGURE 25-1. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25
SYSTEM CABINET CPU CHASSIS BOARD LISTING -
BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	57601	-	0.5 Mb Memory
CPU 3	57602	-	0.5 Mb Memory
CPU 4	57601	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	57602	-	0.5 Mb Memory
CPU 11	57601	-	0.5 Mb Memory
CPU 12	57601	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57612	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	57601	-	0.5 Mb Memory
CPU 19	57601	-	0.5 Mb Memory
CPU 20	57601	-	0.5 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 25-2. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	-	-	Open
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	59210	6202	Byte Sync Controller
I/O	23	-	-	Open
I/O	24	58810	6204	Bit Sync Controller

FIGURE 25-3. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25
SYSTEM CABINET 1 CPU AND I/O CHASSIS BOARD LAYOUT
(DELIVERY 1) - AFTER ENHANCEMENT

CPU CHASSIS

	TXP 8MB SLOTS 1-8								TXP 8MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	–	–	–	8Mb	MC	IP	CC	SQ	–	–	–	8Mb	MC	IP	CC	SQ	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				*	*	*	*	*				*	*	*	*	*			*	*							*	*				

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	OPEN	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	CIU-1P	CIU-1B	ICC	CIU-1P	CIU-1B	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT.	3202	–	–	6304	6304	6303	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	6101	6101	6101	6101	6101	–	–	–	–	–
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
							*	*	*	*	*	*	*	*	*	*	*	*	*					

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

FIGURE 25-4. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25
SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT
(DELIVERY 1) - AFTER ENHANCEMENT

CPU CHASSIS

	(OPEN)								(OPEN)								(OPEN)								(OPEN)							
DESCRIPTION																														
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	ICC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	CIU - P	CIU - B	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	3401	6101	6101	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SLOT # I/O -	1 2		3	4	5 6		7	8	9	10	11 12		13 14		15 16		17 18		19 20		21 22		23 24	
			*	*			*		*	*														

I/O PS	I/O PS	I/O PS	(OPEN)

* UPGRADE EQUIPMENT

FIGURE 25-5. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25
SYSTEM CABINET 1 CPU AND I/O CHASSIS BOARD LAYOUT
(DELIVERY 2) - AFTER ENHANCEMENT

CPU CHASSIS

	TXP 8MB SLOTS 1-8								TXP 8MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	—	—	—	8Mb	MC	IP	CC	SQ	—	—	—	8Mb	MC	IP	CC	SQ	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

I/O CHASSIS

DESCRIPTION	FOX CNTL	FOX CNTL	RESV. FOX	RESV. FOX	RESV. FOX	RESV. FOX	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	CIU-1P	CIU-1B	ICC	CIU-1P	CIU-1B	ASYNC EXT	ASYNC F.E.	ICC	TAPE CNTL.	UI. CNTL.								
PRODUCT IDENT.	6700	6700	—	—	—	—	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	6101	6101	6105	6101	6101	6304	6303	6105	3208	3401								
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
	*	*																				*	*	*								
	CPU PS						CPU PS						CPU PS						CPU PS													

* UPGRADE EQUIPMENT

FIGURE 25-6. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25
SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT
(DELIVERY 2) - AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								TXP 8MB SLOTS 17-24								TXP 8MB SLOTS 25-32							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	–	–	–	8Mb	MC	IP	CC	SQ	–	–	–	8Mb	MC	IP	CC	SQ
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
			*								*									*	*	*	*	*				*	*	*	*	*

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	ICC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	CIU - IP	CIU - IB	DISC I/F	DISC CNTL	DISC I/F	DISC CNTL	DISC I/F	DISC CNTL	DISC I/F	DISC CNTL	ICC	UI CNTL	ICC	ASYNC EXT.	ASYNC EXT.	ASYNC F.E.
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	3401	6101	6101	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	6105	3401	6105	6304	6304	6303
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																			*		*			

	CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

FIGURE 25-7. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25
SYSTEM CABINET 3 CPU AND I/O CHASSIS BOARD LAYOUT
(DELIVERY 2) - AFTER ENHANCEMENT

CPU CHASSIS

	TXP 8MB SLOTS 1-8								(OPEN)								(OPEN)								(OPEN)							
DESCRIPTION	I	I	I	8Mb	MC	IP	CC	SQ																								
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				*	*	*	*	*																								

I/O CHASSIS

DESCRIPTION	ASYNC	ASYNC	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT	6106	6106	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
	*	*	*	*	*	*	*	*																								

	CPU PS	(OPEN)	(OPEN)	(OPEN)

* UPGRADE EQUIPMENT

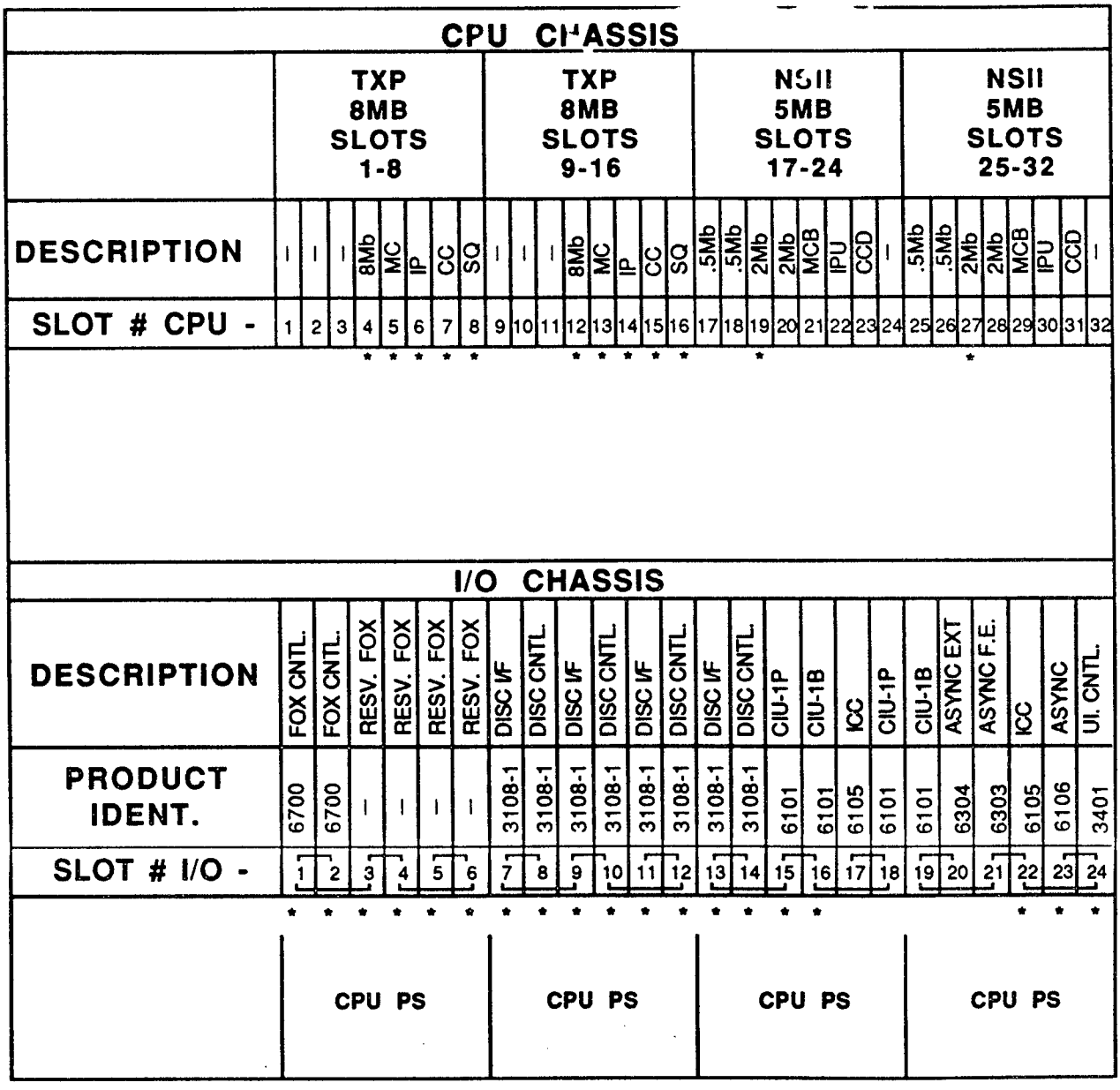
FIGURE 26-1. FAA TECHNICAL CENTER (ASM-160) MPS SITE # 26
SYSTEM CABINET CPU CHASSIS BOARD LISTING -
BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	57601	-	0.5 Mb Memory
CPU 2	57601	-	0.5 Mb Memory
CPU 3	57602	-	0.5 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	57612	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	57603	-	0.5 Mb Memory
CPU 10	57601	-	0.5 Mb Memory
CPU 11	57601	-	0.5 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	57615	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	57603	-	0.5 Mb Memory
CPU 18	57602	-	0.5 Mb Memory
CPU 19	57601	-	0.5 Mb Memory
CPU 20	57740	-	2.0 Mb Memory
CPU 21	54770	-	(MCB) Memory Control Board
CPU 22	54760	-	(IPU) Instruction Processor Unit
CPU 23	54840	-	(CCD) Channel Control/DDT
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 26-2. FAA TECHNICAL CENTER (ASM-160) MPS SITE # 26
SYSTEM CABINET I/O CHASSIS BOARD LISTING -
BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55820	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	53570	6203	Bit Sync Controller
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	55840	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	-	-	Open
I/O	21	-	-	Open
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 26-3. FAA TECHNICAL CENTER (ASM-150) MPS SITE # 26
SYSTEM CABINET 1 CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 26-4. FAA TECHNICAL CENTER (ASM-160) MPS SITE # 26
SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT

CPU CHASSIS																															
	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								(OPEN)								(OPEN)							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–															
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
			*								*																				

I/O CHASSIS																								
DESCRIPTION	BYTE SYNC	BIT SYNC	ICC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	OPEN	OPEN	ICC	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	OPEN	OPEN	ASYNC EXT.	ASYNC EXT.	ASYNC F.E.
PRODUCT IDENT	6202	6203/4	6105	6304	6304	6303	3207	–	–	6105	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	3108-1	–	–	–	6304	6304	6303
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
			*							*	*	*	*	*	*	*	*	*						

	CPU PS	CPU PS	I/O PS	I/O PS

* UPGRADE EQUIPMENT

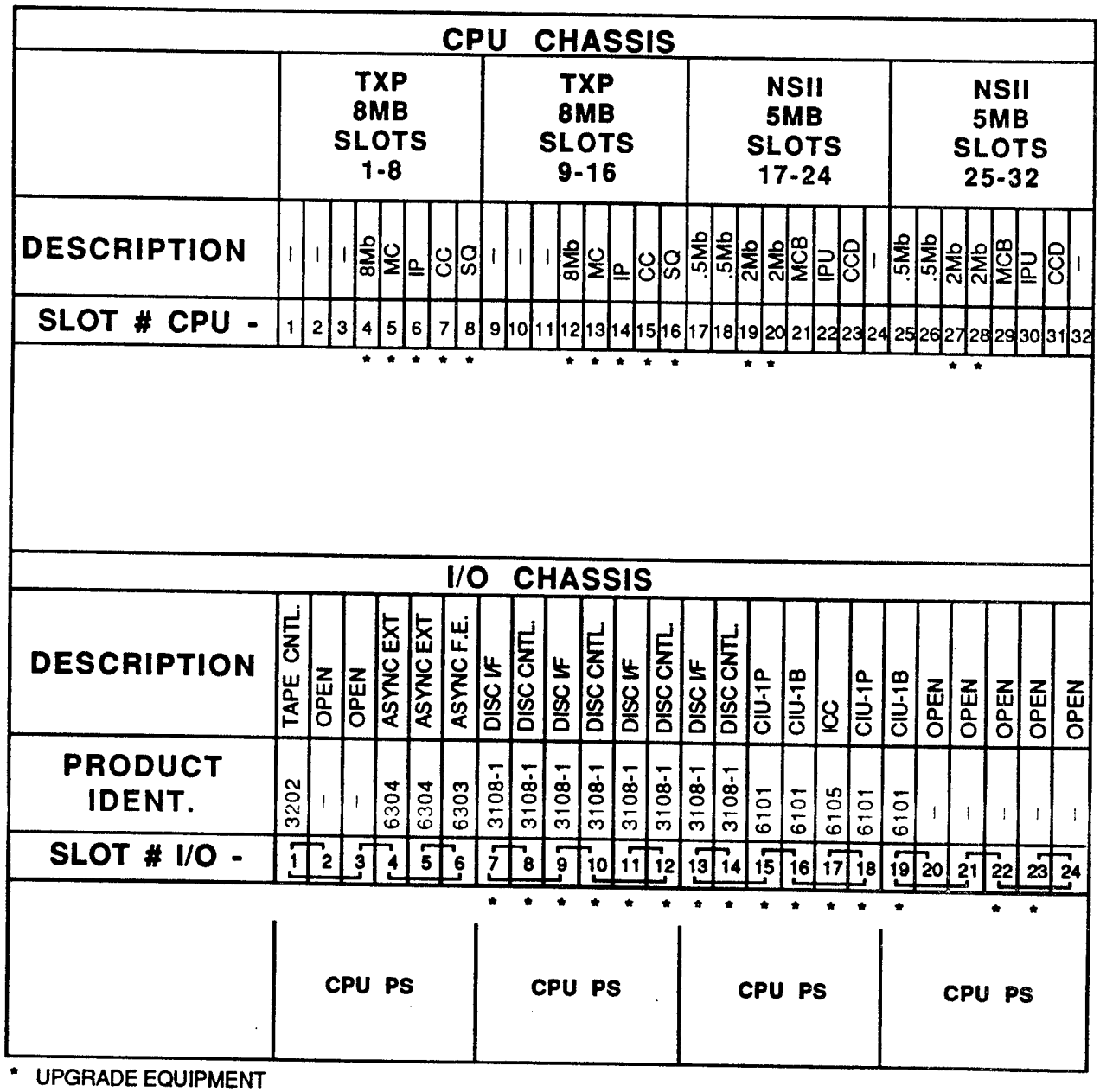
FIGURE 27-1. MIKE MONRONEY AERONAUTICAL CENTER (AAC-940) MPS SITE # 27 SYSTEM CABINET CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	-	-	Open
CPU	2	54740	-	0.5 Mb Memory
CPU	3	54740	-	0.5 Mb Memory
CPU	4	54740	-	0.5 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	57612	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	-	-	Open
CPU	10	57602	-	0.5 Mb Memory
CPU	11	54740	-	0.5 Mb Memory
CPU	12	57602	-	0.5 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	54840	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	-	-	Open
CPU	18	57602	-	0.5 Mb Memory
CPU	19	57601	-	0.5 Mb Memory
CPU	20	57601	-	0.5 Mb Memory
CPU	21	54770	-	(MCB) Memory Control Board
CPU	22	54760	-	(IPU) Instruction Processor Unit
CPU	23	57612	-	(CCD) Channel Control/DDT
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 27-2. MIKE MONRONEY AERONAUTICAL CENTER (AAC-940) MPS SITE # 27 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	-	-	Open
I/O	3	55820	3106	Disc Controller SCU I/F
I/O	4	55900	3106	Disc Controller Channel I/F
I/O	5	-	-	Open
I/O	6	-	-	Open
I/O	7	55930	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	-	-	Open
I/O	10	53000	6304	Async Extension Board
I/O	11	53000	6304	Async Extension Board
I/O	12	52990	6303	Async Front End Board
I/O	13	-	-	Open
I/O	14	51210	3401	UI Controller
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	53000	6304	Async Extension Board
I/O	18	52990	6303	Async Front End Board
I/O	19	-	-	Open
I/O	20	59210	6202	Byte Sync Controller
I/O	21	-	-	Open
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 27-3. MIKE MONRONEY AERONAUTICAL CENTER (AAC-940) MPS SITE # 27 SYSTEM CABINET 1 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 27-4. MIKE MONRONEY AERONAUTICAL CENTER (AAC-940) MPS SITE # 27 SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								(FUTURE) NSII 5MB SLOTS 9-16								(OPEN)								(OPEN)							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–																
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
			*	*							*	*																				

I/O CHASSIS

DESCRIPTION	BYTE SYNC	BIT SYNC	ASYNC	ASYNC EXT	ASYNC EXT	ASYNC F.E.	TAPE CNTL	UI CNTL	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
PRODUCT IDENT	6202	6203/4	6106	6304	6304	6303	3207	3401	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
			*																									

CPU PS	(OPEN)	(OPEN)	(OPEN)

* UPGRADE EQUIPMENT

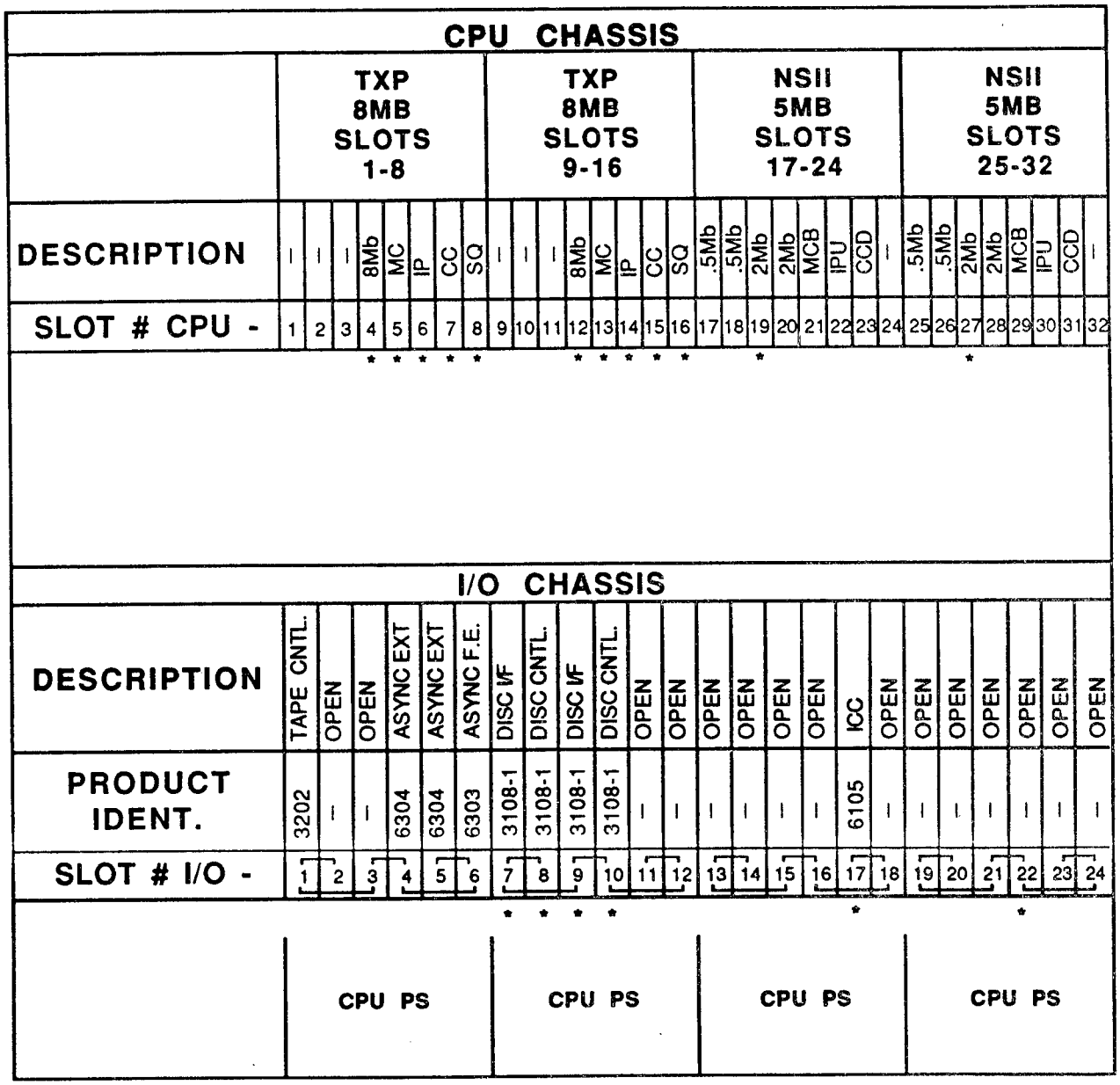
FIGURE 28-1. MIKE MONRONEY AERONAUTICAL CENTER (ASM-150) MPS SITE # 28 SYSTEM CABINET CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	-	-	Open
CPU	2	-	-	Open
CPU	3	-	-	Open
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	-	-	Open
CPU	10	-	-	Open
CPU	11	-	-	Open
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	54840	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	-	-	Open
CPU	18	-	-	Open
CPU	19	-	-	Open
CPU	20	-	-	Open
CPU	21	-	-	Open
CPU	22	-	-	Open
CPU	23	-	-	Open
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 28-2. MIKE MONRONEY AERONAUTICAL CENTER (ASM-150) MPS SITE # 28 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

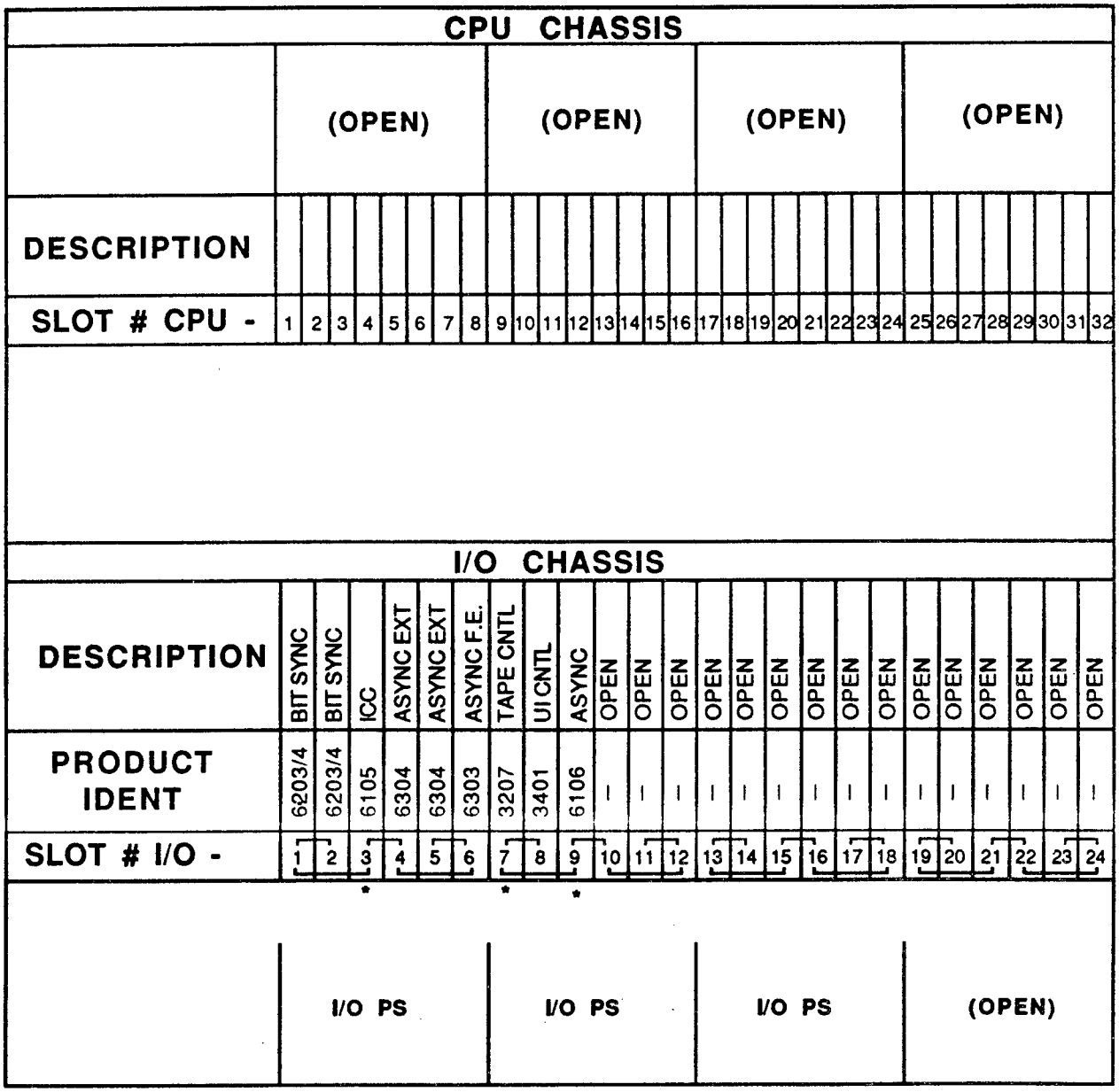
SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	-	-	Open
I/O 2	51210	3401	UI Controller
I/O 3	58810	6204	Bit Sync Controller
I/O 4	-	-	Open
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	58810	6204	Bit Sync Controller
I/O 8	-	-	Open
I/O 9	55820	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	55820	3106	Disc Controller SCU I/F
I/O 12	55900	3106	Disc Controller Channel I/F
I/O 13	-	-	Open
I/O 14	-	-	Open
I/O 15	49040	3202	Tape Controller
I/O 16	-	-	Open
I/O 17	-	-	Open
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	-	-	Open
I/O 23	-	-	Open
I/O 24	-	-	Open

FIGURE 28-3. MIKE MONRONEY AERONAUTICAL CENTER (ASM-150) MPS SITE # 28 SYSTEM CABINET 1 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 28-4. MIKE MONRONEY AERONAUTICAL CENTER (ASM-150) MPS SITE # 28 SYSTEM CABINET 2 CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

FIGURE 29-1. DALLAS/FT. WORTH MPS SITE # 29 SYSTEM CABINET CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	-	-	Open
CPU	2	-	-	Open
CPU	3	-	-	Open
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	-	-	Open
CPU	10	-	-	Open
CPU	11	-	-	Open
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	54840	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	-	-	Open
CPU	18	-	-	Open
CPU	19	-	-	Open
CPU	20	-	-	Open
CPU	21	-	-	Open
CPU	22	-	-	Open
CPU	23	-	-	Open
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 29-2. DALLAS/FT. WORTH MPS SITE # 29 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	58000	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	58810	6204	Bit Sync Controller
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	-	-	Open
I/O	8	-	-	Open
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55930	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	53000	6304	Async Extension Board
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	-	-	Open
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 29-3. DALLAS/FT. WORTH MPS SITE # 29 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	5Mb	5Mb	2Mb	2Mb	MCB	IPU	CCD	-	5Mb	5Mb	2Mb	2Mb	MCB	IPU	CCD	-	5Mb	5Mb	2Mb	2Mb	MCB	IPU	CCD	-	5Mb	5Mb	2Mb	2Mb	MCB	IPU	CCD	-
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	UI CNTL.	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	BIT SYNC	OPEN	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	OPEN	OPEN	OPEN	BYTE SYNC	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	OPEN	OPEN	OPEN								
PRODUCE IDENT.	3202	3401	-	6304	6304	6303	6203/4	—	3108-2	3108-2	3108-2	3108-2	-	—	—	—	6202	—	6304	6304	6303	—	—	—								
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

FIGURE 30-1. MEMPHIS MPS SITE # 30 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	-	-	Open
CPU 3	-	-	Open
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	-	-	Open
CPU 11	-	-	Open
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	-	-	Open
CPU 20	-	-	Open
CPU 21	-	-	Open
CPU 22	-	-	Open
CPU 23	-	-	Open
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 30-2. MEMPHIS MPS SITE # 30 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	49040	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	58810	6204	Bit Sync Controller
I/O	8	59210	6202	Byte Sync Controller
I/O	9	55820	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55820	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	59210	6202	Byte Sync Controller
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	-	-	Open
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	-	-	Open
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 30-3. MEMPHIS MPS SITE # 30 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	|	|	*						|	|	*						|	|	*	|	|	|	|		|	|	*	|	|	|	|

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	UI CNTL.	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	BIT SYNC	OPEN	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	OPEN	OPEN	OPEN	BYTE SYNC	BYTE SYNC	OPEN	ASYNC EXT	ASYNC F.E.	OPEN	OPEN	OPEN								
PRODUCE IDENT.	3202	3401	—	6304	6304	6303	6203/4	—	3108-2	3108-2	3108-2	3108-2	—	—	—	—	6202	6202	—	6304	6303	—	—	—								
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24								
									*	*	*	*																				

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

FIGURE 31-1. NORFOLK MPS SITE # 31 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	57740	-	2.0 Mb Memory
CPU 3	57740	-	2.0 Mb Memory
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	57740	-	2.0 Mb Memory
CPU 11	57740	-	2.0 Mb Memory
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	-	-	Open
CPU 20	-	-	Open
CPU 21	-	-	Open
CPU 22	-	-	Open
CPU 23	-	-	Open
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 31-2. NORFOLK MPS SITE # 31 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	49040	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	53000	6304	Async Extension Board
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55820	3106	Disc Controller SCU I/F
I/O	8	55900	3106	Disc Controller Channel I/F
I/O	9	55820	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	-	-	Open
I/O	12	-	-	Open
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	55840	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	-	-	Open
I/O	21	-	-	Open
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 31-3. NORFOLK MPS SITE # 31 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	|	|	*						|	|	*						|	|	*						|	|	*				

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	UI CNTL.	OPEN	ASYNC EXT	ASYNC EXT	ASYNC F.E.	BIT SYNC	OPEN	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	OPEN	OPEN	OPEN	BYTE SYNC	OPEN	OPEN	ASYNC EXT	ASYNC F.E.	OPEN	OPEN	OPEN
PRODUCE IDENT.	3202	3401	—	6304	6304	6303	6203/4	—	3108-2	3108-2	3108-2	3108-2	—	—	—	—	6202	—	—	6304	6303	—	—	—
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
									*	*	*	*												

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

FIGURE 32-1. WINDSOR LOCKS MPS SITE # 32 SYSTEM CABINET CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	-	-	Open
CPU 3	-	-	Open
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	-	-	Open
CPU 11	-	-	Open
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	-	-	Open
CPU 20	-	-	Open
CPU 21	-	-	Open
CPU 22	-	-	Open
CPU 23	-	-	Open
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 32-2. WINDSOR LOCKS MPS SITE # 32 SYSTEM CABINET I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	49040	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	-	-	Open
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	58810	6204	Bit Sync Controller
I/O	8	58810	6204	Bit Sync Controller
I/O	9	55820	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55820	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	59210	6202	Byte Sync Controller
I/O	17	-	-	Open
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	-	-	Open
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 32-3. WINDSOR LOCKS MPS SITE # 32 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT - AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	|	|	*						|	|	*						|	|	*	|	|	|	|		|	|	*	|	|	|	|

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	UI CNTL.	OPEN	OPEN	ASYNC EXT	ASYNC F.E.	BIT SYNC	OPEN	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	OPEN	OPEN	OPEN	BYTE SYNC	OPEN	OPEN	ASYNC EXT	ASYNC F.E.	OPEN	OPEN	BIT SYNC
PRODUCE IDENT.	3202	3401	—	—	6304	6303	6203/4	—	3108-2	3108-2	3108-2	3108-2	—	—	—	—	6202	—	—	6304	6303	—	—	6203/4
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
									*	*	*	*												

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

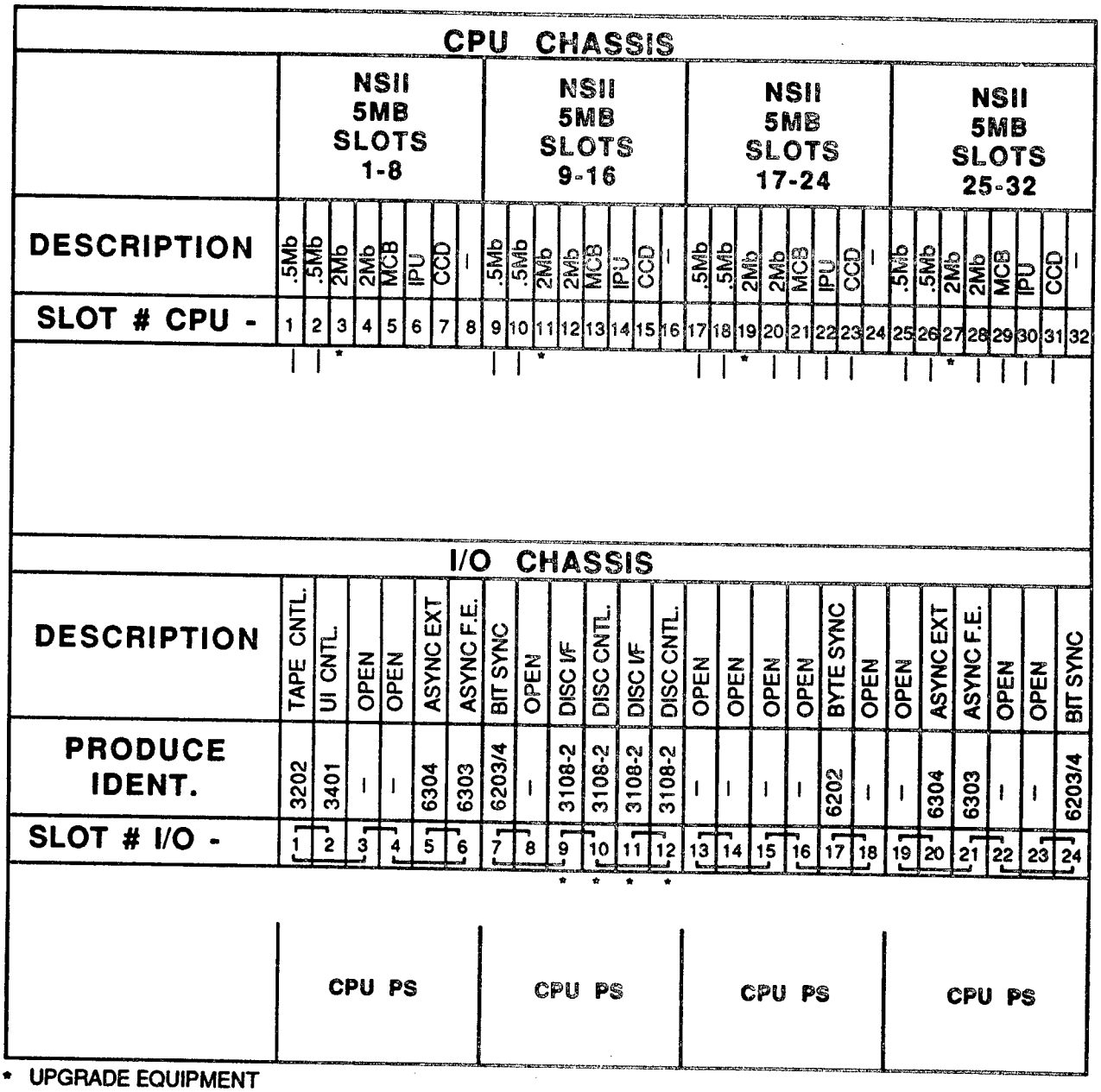
FIGURE 33-1. DETROIT MPS SITE # 33 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	-	-	Open
CPU	2	-	-	Open
CPU	3	-	-	Open
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	-	-	Open
CPU	10	-	-	Open
CPU	11	-	-	Open
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	54840	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	-	-	Open
CPU	18	-	-	Open
CPU	19	-	-	Open
CPU	20	-	-	Open
CPU	21	-	-	Open
CPU	22	-	-	Open
CPU	23	-	-	Open
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 33-2. DETROIT MPS SITE # 33 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	49040	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	-	-	Open
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	58810	6204	Bit Sync Controller
I/O	8	58810	6204	Bit Sync Controller
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55820	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	-	-	Open
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 33-3. DETROIT MPS SITE # 33 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

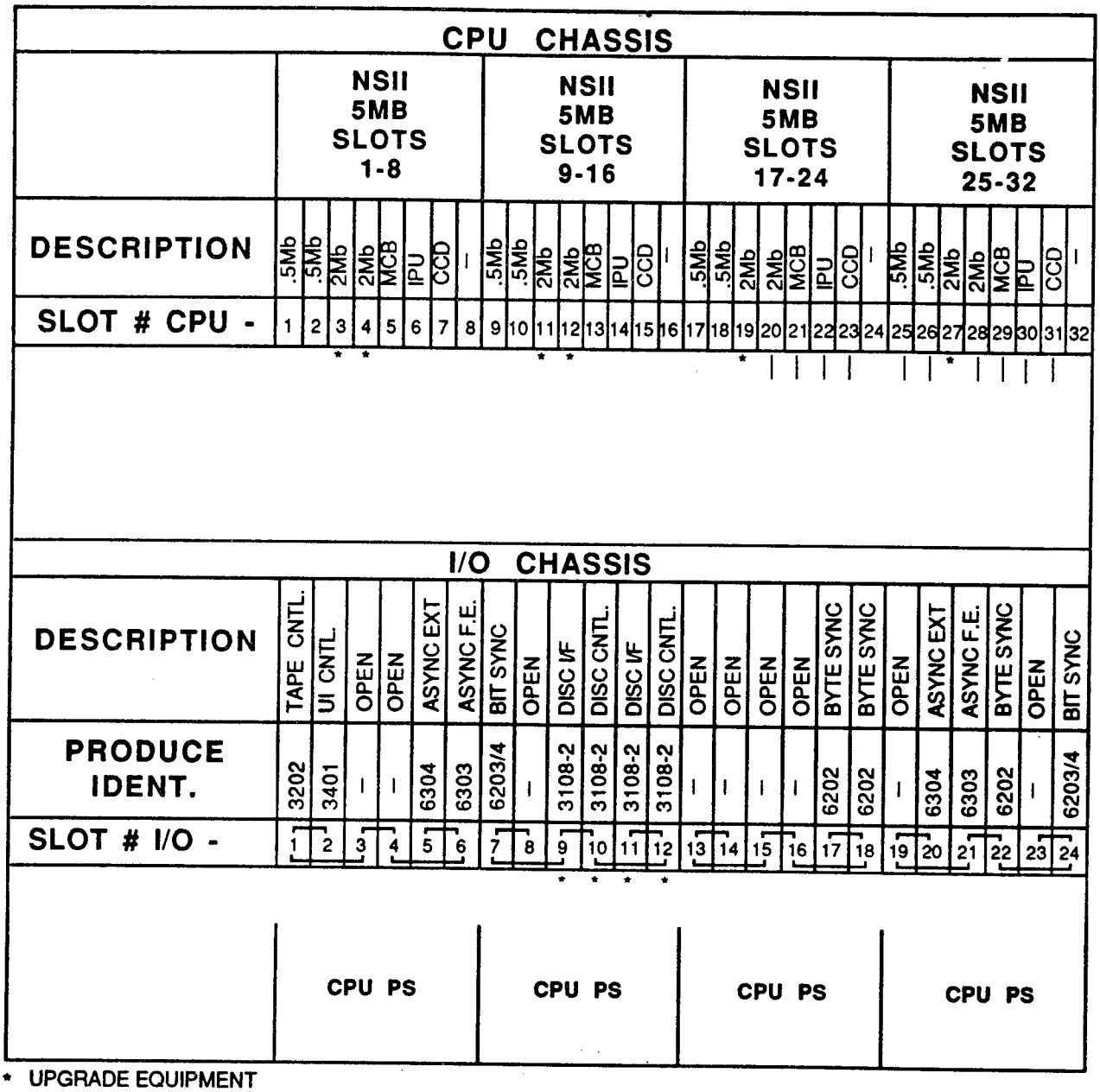
FIGURE 34-1. ST. LOUIS MPS SITE # 34 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	54740	-	0.5 Mb Memory
CPU 2	54740	-	0.5 Mb Memory
CPU 3	57603	-	0.5 Mb Memory
CPU 4	57603	-	0.5 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-.	-	Open
CPU 9	54740	-	0.5 Mb Memory
CPU 10	54740	-	0.5 Mb Memory
CPU 11	57601	-	0.5 Mb Memory
CPU 12	57601	-	0.5 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	59690	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	-	-	Open
CPU 20	-	-	Open
CPU 21	-	-	Open
CPU 22	-	-	Open
CPU 23	-	-	Open
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 34-2. ST. LOUIS MPS SITE # 34 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	52020	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	-	-	Open
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	55820	3601a	Disc Controller SCU I/F
I/O	8	55900	3601a	Disc Controller Channel I/F
I/O	9	55930	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55930	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	53000	6304	Async Extension Board
I/O	15	52990	6303	Async Front End Board
I/O	16	-	-	Open
I/O	17	53570	6203	Bit Sync Controller
I/O	18	-	-	Open
I/O	19	55840	6202	Byte Sync Controller
I/O	20	59210	6202	Byte Sync Controller
I/O	21	59210	6202	Byte Sync Controller
I/O	22	58810	6204	Bit Sync Controller
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 34-3. ST. LOUIS MPS SITE # 34 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

FIGURE 35-1. WICHITA MPS SITE # 35 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU	1	-	-	Open
CPU	2	-	-	Open
CPU	3	-	-	Open
CPU	4	57740	-	2.0 Mb Memory
CPU	5	54770	-	(MCB) Memory Control Board
CPU	6	54760	-	(IPU) Instruction Processor Unit
CPU	7	54840	-	(CCD) Channel Control/DDT
CPU	8	-	-	Open
CPU	9	-	-	Open
CPU	10	-	-	Open
CPU	11	-	-	Open
CPU	12	57740	-	2.0 Mb Memory
CPU	13	54770	-	(MCB) Memory Control Board
CPU	14	54760	-	(IPU) Instruction Processor Unit
CPU	15	54840	-	(CCD) Channel Control/DDT
CPU	16	-	-	Open
CPU	17	-	-	Open
CPU	18	-	-	Open
CPU	19	-	-	Open
CPU	20	-	-	Open
CPU	21	-	-	Open
CPU	22	-	-	Open
CPU	23	-	-	Open
CPU	24	-	-	Open
CPU	25	-	-	Open
CPU	26	-	-	Open
CPU	27	-	-	Open
CPU	28	-	-	Open
CPU	29	-	-	Open
CPU	30	-	-	Open
CPU	31	-	-	Open
CPU	32	-	-	Open

FIGURE 35-2. WICHITA MPS SITE # 35 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	49040	3202	Tape Controller
I/O 2	51210	3401	UI Controller
I/O 3	-	-	Open
I/O 4	-	-	Open
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	58810	6204	Bit Sync Controller
I/O 8	58810	6204	Bit Sync Controller
I/O 9	55820	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	55820	3106	Disc Controller SCU I/F
I/O 12	55900	3106	Disc Controller Channel I/F
I/O 13	-	-	Open
I/O 14	59210	6202	Byte Sync Controller
I/O 15	59210	6202	Byte Sync Controller
I/O 16	-	-	Open
I/O 17	-	-	Open
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	-	-	Open
I/O 23	-	-	Open
I/O 24	-	-	Open

FIGURE 35-3. WICHITA MPS SITE # 35 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	–
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	|	|	*						|	|	*						|	|	*		|	|	|					|	|	*		|	|	|	|	|

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	UI CNTL.	OPEN	OPEN	ASYNC EXT	ASYNC F.E.	BIT SYNC	OPEN	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	OPEN	OPEN	OPEN	BYTE SYNC	BYTE SYNC	OPEN	ASYNC EXT	ASYNC F.E.	OPEN	OPEN	BIT SYNC
PRODUCE IDENT.	3202	3401	–	–	6304	6303	6203/4	–	3108-2	3108-2	3108-2	3108-2	–	–	–	–	6202	6202	–	6304	6303	–	–	6203/4
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	[	]	[	]	[	]	[	]	*	*	*	*	[	]	[	]	[	]		[	]	[	]	

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

FIGURE 36-1. DENVER MPS SITE # 36 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	-	-	Open
CPU 3	-	-	Open
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	-	-	Open
CPU 11	-	-	Open
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	-	-	Open
CPU 20	-	-	Open
CPU 21	-	-	Open
CPU 22	-	-	Open
CPU 23	-	-	Open
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 36-2. DENVER MPS SITE # 36 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	49040	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	-	-	Open
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	58810	6204	Bit Sync Controller
I/O	8	58810	6204	Bit Sync Controller
I/O	9	55820	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55820	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	59210	6202	Byte Sync Controller
I/O	15	59210	6202	Byte Sync Controller
I/O	16	-	-	Open
I/O	17	53000	6304	Async Extension Board
I/O	18	52990	6303	Async Front End Board
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	-	-	Open
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 36-3. DENVER MPS SITE # 36 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT

CPU CHASSIS

	NSII 5MB SLOTS 1-8								NSII 5MB SLOTS 9-16								NSII 5MB SLOTS 17-24								NSII 5MB SLOTS 25-32							
DESCRIPTION	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—	.5Mb	.5Mb	2Mb	2Mb	MCB	IPU	CCD	—
SLOT # CPU -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	|	|	*						|	|	*						|	|	*		|	|	|	|		|	|	*		|	|	|	|

I/O CHASSIS

DESCRIPTION	TAPE CNTL.	UI CNTL.	OPEN	OPEN	ASYNC EXT	ASYNC F.E.	BIT SYNC	OPEN	DISC I/F	DISC CNTL.	DISC I/F	DISC CNTL.	OPEN	ASYNC EXT	ASYNC F.E.	OPEN	BYTE SYNC	BYTE SYNC	OPEN	ASYNC EXT	ASYNC F.E.	OPEN	OPEN	BIT SYNC
PRODUCE IDENT.	3202	3401	—	—	6304	6303	6203/4	—	3108-2	3108-2	3108-2	3108-2	—	6304	6303	—	6202	6202	—	6304	6303	—	—	6203/4
SLOT # I/O -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
									*	*	*	*												

CPU PS	CPU PS	CPU PS	CPU PS

* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

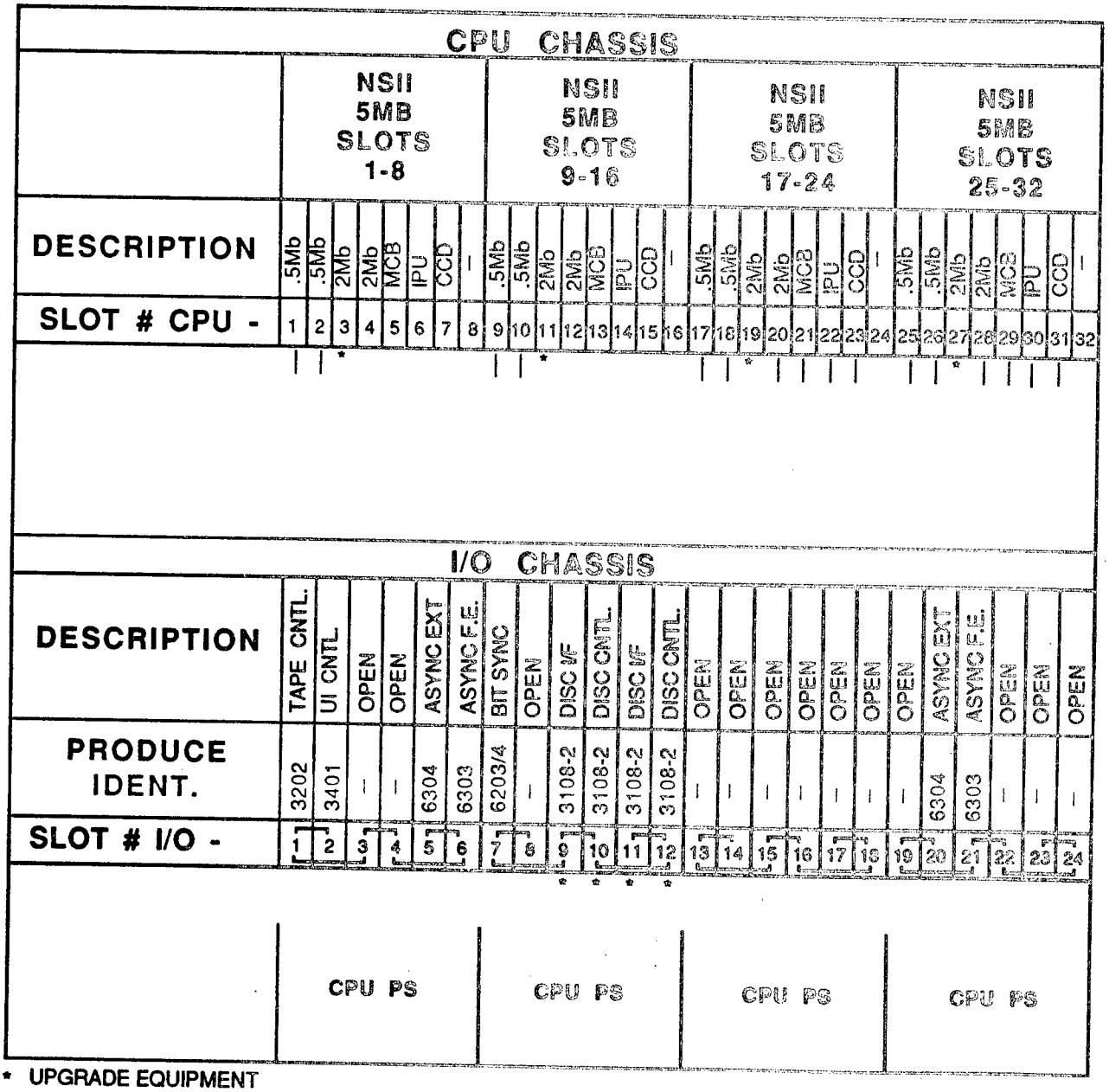
FIGURE 37-1. EDWARDS AFB MPS SITE # 37 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	-	-	Open
CPU 3	-	-	Open
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	-	-	Open
CPU 11	-	-	Open
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	-	-	Open
CPU 20	-	-	Open
CPU 21	-	-	Open
CPU 22	-	-	Open
CPU 23	-	-	Open
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 37-2. EDWARDS AFB MPS SITE # 37 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O 1	49040	3202	Tape Controller
I/O 2	51210	3401	UI Controller
I/O 3	-	-	Open
I/O 4	-	-	Open
I/O 5	53000	6304	Async Extension Board
I/O 6	52990	6303	Async Front End Board
I/O 7	58810	6204	Bit Sync Controller
I/O 8	-	-	Open
I/O 9	55820	3106	Disc Controller SCU I/F
I/O 10	55900	3106	Disc Controller Channel I/F
I/O 11	55820	3106	Disc Controller SCU I/F
I/O 12	55900	3106	Disc Controller Channel I/F
I/O 13	-	-	Open
I/O 14	-	-	Open
I/O 15	-	-	Open
I/O 16	-	-	Open
I/O 17	-	-	Open
I/O 18	-	-	Open
I/O 19	-	-	Open
I/O 20	53000	6304	Async Extension Board
I/O 21	52990	6303	Async Front End Board
I/O 22	-	-	Open
I/O 23	-	-	Open
I/O 24	-	-	Open

FIGURE 37-3. EDWARDS AFB MPS SITE # 37 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT



* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

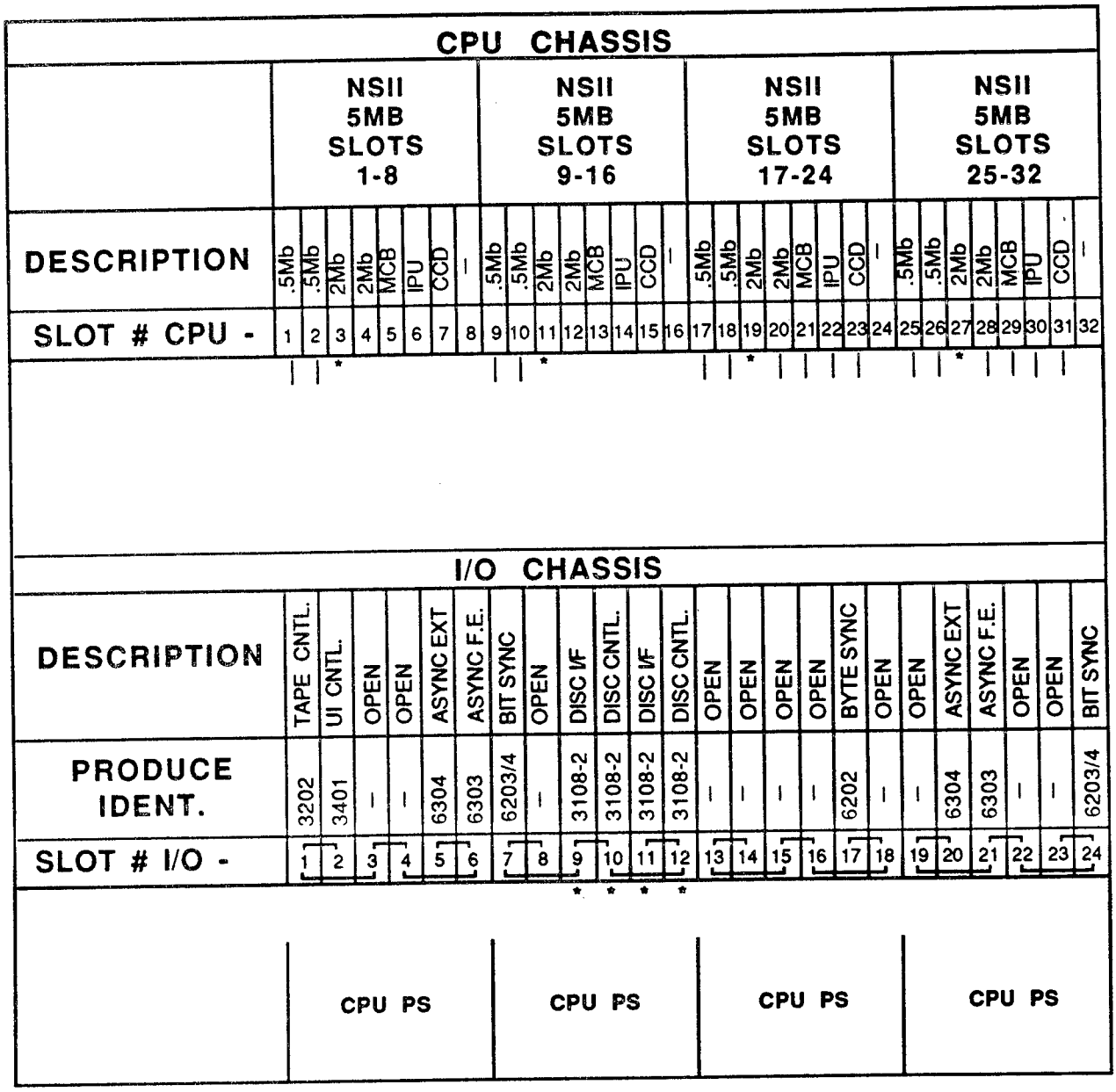
FIGURE 38-1. FAIRBANKS MPS SITE # 38 SYSTEM CABINET
CPU CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
CPU 1	-	-	Open
CPU 2	-	-	Open
CPU 3	-	-	Open
CPU 4	57740	-	2.0 Mb Memory
CPU 5	54770	-	(MCB) Memory Control Board
CPU 6	54760	-	(IPU) Instruction Processor Unit
CPU 7	54840	-	(CCD) Channel Control/DDT
CPU 8	-	-	Open
CPU 9	-	-	Open
CPU 10	-	-	Open
CPU 11	-	-	Open
CPU 12	57740	-	2.0 Mb Memory
CPU 13	54770	-	(MCB) Memory Control Board
CPU 14	54760	-	(IPU) Instruction Processor Unit
CPU 15	54840	-	(CCD) Channel Control/DDT
CPU 16	-	-	Open
CPU 17	-	-	Open
CPU 18	-	-	Open
CPU 19	-	-	Open
CPU 20	-	-	Open
CPU 21	-	-	Open
CPU 22	-	-	Open
CPU 23	-	-	Open
CPU 24	-	-	Open
CPU 25	-	-	Open
CPU 26	-	-	Open
CPU 27	-	-	Open
CPU 28	-	-	Open
CPU 29	-	-	Open
CPU 30	-	-	Open
CPU 31	-	-	Open
CPU 32	-	-	Open

FIGURE 38-2. FAIRBANKS MPS SITE # 38 SYSTEM CABINET
I/O CHASSIS BOARD LISTING - BEFORE ENHANCEMENT

SLOT	ID/#	PART NUMBER	PRODUCT IDENT	PRODUCT DESCRIPTION
I/O	1	49040	3202	Tape Controller
I/O	2	51210	3401	UI Controller
I/O	3	-	-	Open
I/O	4	-	-	Open
I/O	5	53000	6304	Async Extension Board
I/O	6	52990	6303	Async Front End Board
I/O	7	58810	6204	Bit Sync Controller
I/O	8	53570	6203	Bit Sync Controller
I/O	9	55820	3106	Disc Controller SCU I/F
I/O	10	55900	3106	Disc Controller Channel I/F
I/O	11	55820	3106	Disc Controller SCU I/F
I/O	12	55900	3106	Disc Controller Channel I/F
I/O	13	-	-	Open
I/O	14	-	-	Open
I/O	15	-	-	Open
I/O	16	-	-	Open
I/O	17	59210	6202	Byte Sync Controller
I/O	18	-	-	Open
I/O	19	-	-	Open
I/O	20	53000	6304	Async Extension Board
I/O	21	52990	6303	Async Front End Board
I/O	22	-	-	Open
I/O	23	-	-	Open
I/O	24	-	-	Open

FIGURE 38-3. FAIRBANKS MPS SITE # 38 SYSTEM CABINET
CPU AND I/O CHASSIS BOARD LAYOUT -
AFTER ENHANCEMENT



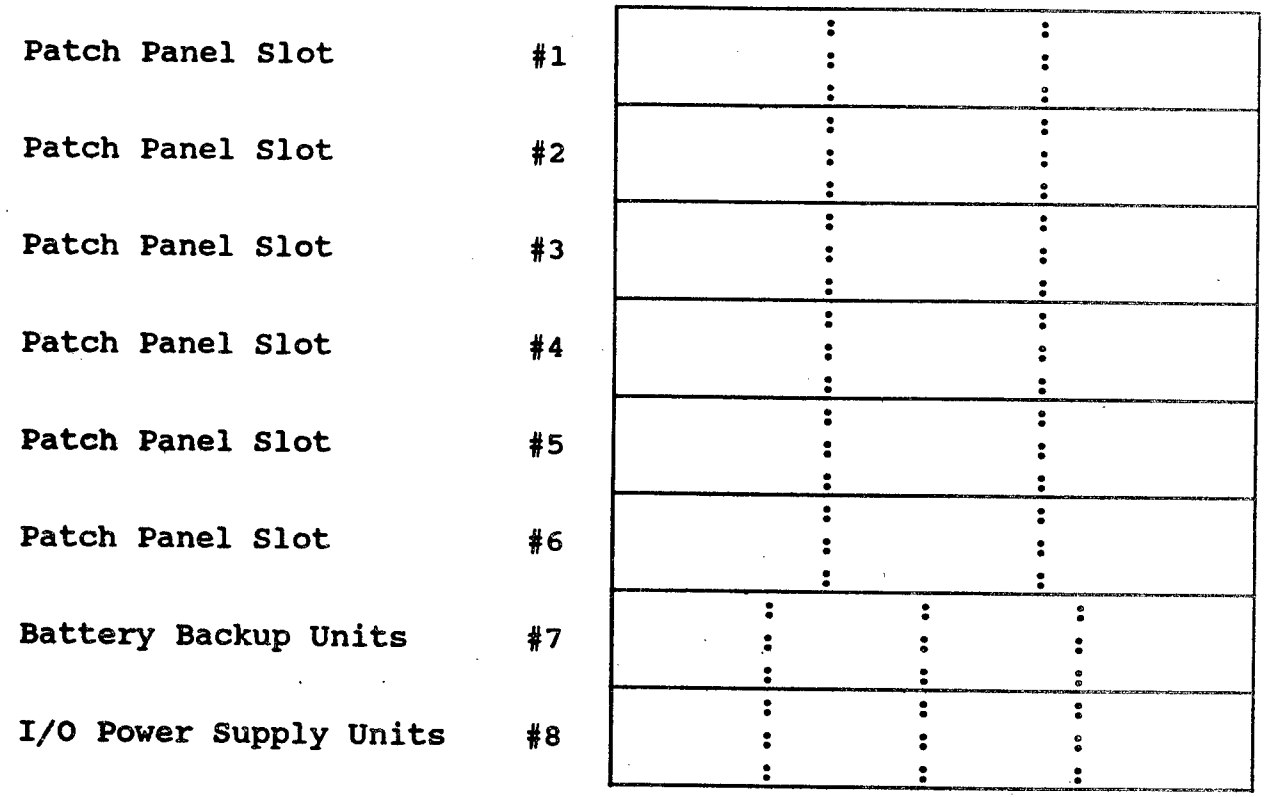
* UPGRADE EQUIPMENT

| RELOCATED EQUIPMENT

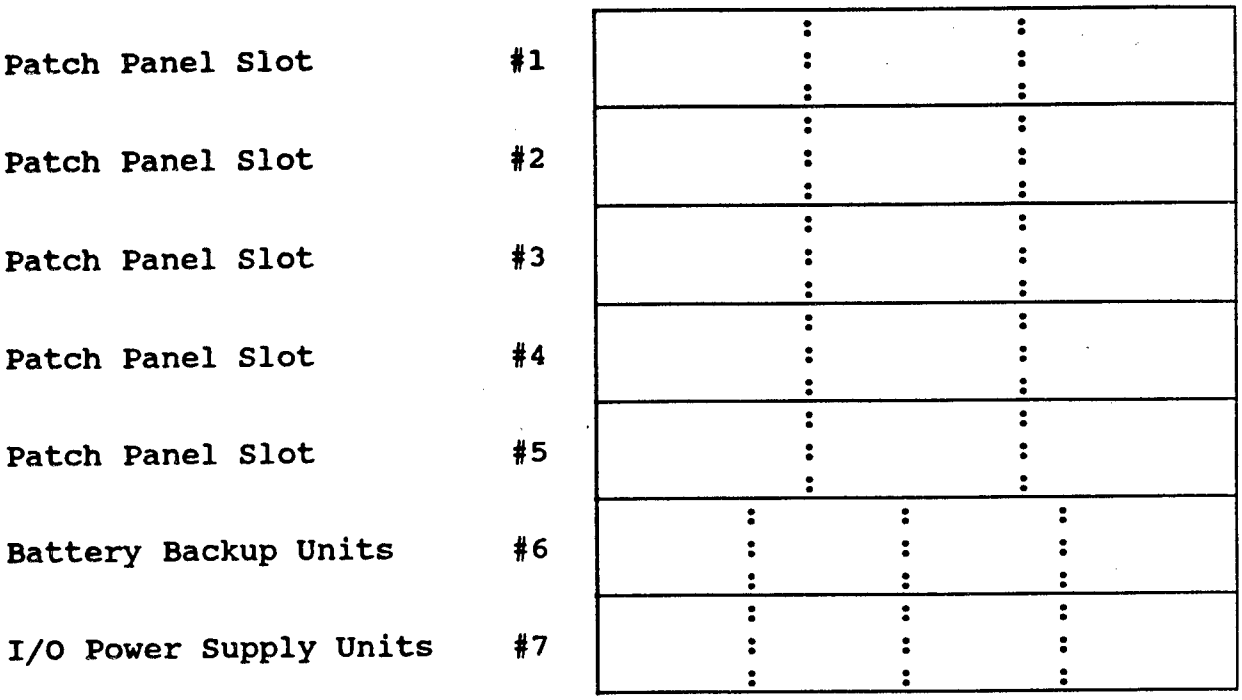
APPENDIX 5. PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS - BEFORE AND AFTER MPS ENHANCEMENT

This appendix describes on a site by site basis the location of patch panels, patch panel inserts, battery backup units and input/output (I/O) power supply units before and after the MPS enhancement. Four types of cabinets may exist at an MPS site (depending on their requirements) for storing the aforementioned equipment: 45 IPS tape cabinet, 125 IPS tape cabinet, patch panel cabinet, and an expansion cabinet. The cabinet layouts are described below:

a. 45 IPS Tape Cabinet Layout. A 45 IPS tape cabinet provides eight slots for mounting equipment: slots 1-6 for patch panels; slot 7 for battery backup units (from one to four); and slot 8 for I/O power supply units (from one to four). Patch panels require a complete patch panel slot; whereas patch panel inserts require 1/3 of a patch panel slot.

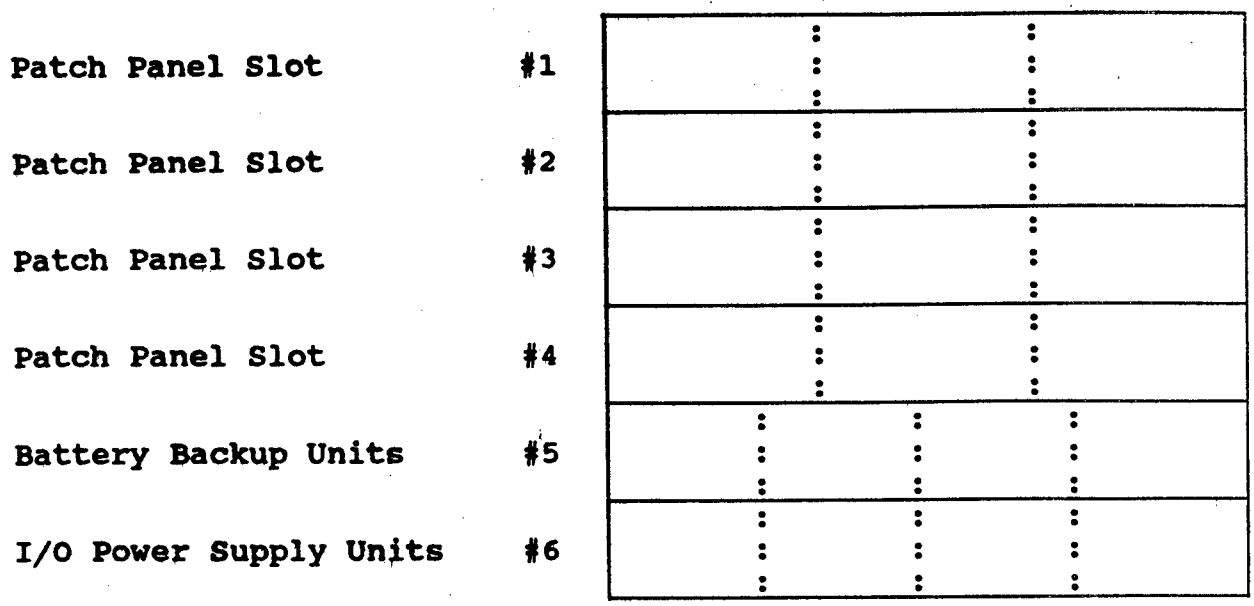


b. 125 IPS Tape Cabinet Layout. A 125 IPS tape cabinet contains five patch panel slots. Otherwise it has the same layout as a 45 IPS tape cabinet.



c. Patch Panel Cabinet Layout. The layout of a patch panel cabinet is the same as the layout of a 45 IPS tape cabinet.

d. Expansion Cabinet Layout. An expansion cabinet has four patch panel slots. Otherwise it has the same layout as a 45 IPS tape cabinet.



The contents of each cabinet at each site before and after MPS enhancement are presented in the figures below. Patch panels are identified by Tandem product identification number. Patch panel inserts are identified by functional type and are shown by their relative position within a patch panel slot. Battery backup units are indicated by a "BBU". I/O power supply units are indicated by a "I/OPS". An "OPEN" indicates that no patch panel, patch panel insert, battery backup unit, or I/O power supply unit is present in a particular cabinet position. An arrow (--->) placed to the right of a patch panel slot, battery backup unit or I/O power supply unit indicates the relocation of equipment from one cabinet/slot to another cabinet/slot or removal to another MPS site or FAA Depot in accordance with appendix 2 herein. An underlined battery backup unit (BBU) indicates the relocation of the battery backup unit with a NonStop II to another MPS site in accordance with appendix 2 herein. An underlined I/O power supply unit (I/OPS) at Kansas City, MPS Site # 1, indicates the relocation of the I/O power supply unit to the development system at Kansas City. All patch panel cabinets (with the exception of Kansas City) will be removed in accordance with appendix 2 herein. Due to cable limitations, I/O power supply units may not be placed more than one cabinet away from the system cabinet in which the respective I/O controllers are located. Given this requirement, the fourth, fifth and sixth I/O power supply units for ARTCC and support sites will be placed in the CPU power supply area of the new system cabinets. This I/O power supply placement is noted here, but not graphically described in the following figures.

FIGURE 1-1. KANSAS CITY MPS SITE # 1 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	Printer Insert	Open	Open	--->
2	(7501)			--->
3	(7501)			
4	(7501)			
5	(7501)			
6	(7504)			--->DEV. SYSTEM
7	BBU	BBU	BBU	BBU
8	I/OPS	I/OPS	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(7502)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	OPEN	I/OPS	I/OPS	I/OPS

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	BitSync Insert	BitSync Inser	Open	--->
2	(7502)			--->
3	(7502)			--->
4	(7501)			
5	(7501)			
6	(7502)			--->
7	Open	Open	Open	Open
8	Open	Open	Open	I/OPS --->

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	BitSync Insert	BitSync Insert
3	(7502)		
4	(7501)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 2-1. LOS ANGELES MPS SITE # 2 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(7502)			
2	(7501)	--->		
3	(7501)			
4	(7501)			
5	(7501)			
6	(7504)	--->FAA DEPOT		
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(7502)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(7502)	--->		
2	Printer Insert	Open	Open	--->
3	(OPEN)			
4	(OPEN)			
5	(OPEN)			
6	(OPEN)			
7	Open	Open	Open	Open
8	Open	Open	Open	Open

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Printer Insert	Open
3	(OPEN)		
4	(7501)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 3-1. ANCHORAGE MPS SITE # 3 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #		
1	(7502)	
2	(7501)	--->
3	(7501)	
4	(7501)	
5	(7501)	
6	(7504)	--->FAA DEPOT
7	Open Open BBU BBU	
8	Open Open I/OPS I/OPS	

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #		
1	(7502)	
2	(OPEN)	
3	(7501)	
4	(7501)	
5	(7501)	
6	(7501)	
7	BBU BBU BBU BBU	
8	Open I/OPS I/OPS I/OPS	

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #		
1		
2		
3		
4	E M P T Y	
5		
6		
7		
8		

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	Open
3	(OPEN)		
4	(7501)		
5	7806	7807	7806
6	Open Open	Open	Open
7	Open Open	Open	Open

FIGURE 4-1. CHICAGO MPS SITE # 4 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #		
1	(7502)	
2	(7501)	--->
3	(7501)	
4	(7501)	
5	(7501)	
6	(7504)	--->FAA DEPOT
7	Open BBU BBU BBU	
8	Open Open I/OPS I/OPS	

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #	
1	(7502)
2	(OPEN)
3	(7501)
4	(7501)
5	(7501)
6	(7501)
7	BBU BBU BBU BBU
8	Open I/OPS I/OPS I/OPS

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #	
1	
2	
3	
4	
5	E M P T Y
6	
7	
8	

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	Open
3	(OPEN)		
4	(7501)		
5	7806	7807	7806
6	Open	Open Open	Open
7	Open	Open Open	Open

FIGURE 5-1. ATLANTA MPS SITE # 5 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #						
1	(	7	5	0	2	)
2	(	7	5	0	1	) --->
3	(	7	5	0	1	)
4	(	7	5	0	1	)
5	(	7	5	0	1	)
6	(	7	5	0	4	) --->FAA DEPOT
7	Open	BBU	BBU	BBU		
8	Open	Open	I/OPS	I/OPS		

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #						
1	(	7	5	0	2	)
2	(	7	5	0	2	)
3	(	7	5	0	1	)
4	(	7	5	0	1	)
5	(	7	5	0	1	)
6	(	7	5	0	1	)
7	BBU	BBU	BBU	BBU		
8	Open	I/OPS	I/OPS	I/OPS		

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #						
1	(	O	P	E	N	)
2	(	O	P	E	N	)
3	(	O	P	E	N	)
4	(	O	P	E	N	)
5	(	7	5	0	2	) --->
6	BitSync Insert	Open	Open	--->		
7	Open	Open	Open	Open		
8	Open	Open	Open	Open		

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	BitSync Insert
3	(O P E N)		
4	(7 5 0 1)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 6-1. FT. WORTH MPS SITE # 6 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #		
1	(7502)	
2	(7501)	--->
3	(7501)	
4	(7501)	
5	(7501)	
6	(7504)	--->FAA DEPOT
7	Open BBU BBU BBU	
8	Open Open I/OPS I/OPS	

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #		
1	(7502)	
2	(7502)	
3	(7501)	
4	(7501)	
5	(7501)	
6	(7501)	
7	BBU BBU BBU BBU	
8	Open I/OPS I/OPS I/OPS	

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #		
1	(7502)	--->
2	(OPEN)	
3	(OPEN)	
4	(OPEN)	
5	ByteSync Insert Open Printer Insert	--->
6	(OPEN)	
7	Open Open Open Open	
8	Open Open Open Open	

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #		
1	6165-1 Insert 6165-1 Insert 6100 Insert	
2	6100 Insert ByteSync Insert Printer Insert	
3	(OPEN)	
4	(7501)	
5	7807 7806 7806	
6	Open Open Open Open	
7	Open Open Open Open	

FIGURE 7-1. SAN JUAN MPS SITE # 7 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	Printer Insert	Open	Open	--->
2	(7502)			--->
3	(7501)			
4	(7501)			
5	(7501)			
6	(7504)			--->FAA DEPOT
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(OPEN)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert		Open Insert
2	6100 Insert	Printer Insert		Open
3	(OPEN)			
4	(OPEN)			
5	7806	7807		7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 8-1. HOUSTON MPS SITE # 8 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(7502)			
2	(7501)	--->		
3	(7501)			
4	(7501)			
5	(7501)			
6	(7504)	--->FAA DEPOT		
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(7502)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	Open	BitSync Insert	Printer Insert	--->
2	(7502)			--->
3	(OPEN)			
4	(OPEN)			
5	(OPEN)			
6	(OPEN)			
7	Open	Open	Open	Open
8	Open	Open	Open	Open

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Printer Insert	BitSync Insert	
3	(OPEN)			
4	(7501)			
5	7806	7807	7806	
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 9-1. JACKSONVILLE MPS SITE # 9 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(7502)			
2	(7501)	--->		
3	(7501)			
4	(7501)			
5	(7501)			
6	(7504)	--->FAA DEPOT		
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(7502)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

PATCH PANEL CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	BitSync Insert	Open	Open	--->
2	(7502)			--->
3	(OPEN)			
4	(OPEN)			
5	(OPEN)			
6	(OPEN)			
7	Open	Open	Open	Open
8	Open	Open	Open	Open

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	BitSync Insert
3	(OPEN)		
4	(7501)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 10-1. ALBUQUERQUE MPS SITE # 10 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #						
1	BitSync Insert	BitSync Insert	ByteSync Insert	--->		
2	(7501)	--->				
3	(7501)					
4	(7501)					
5	(7501)					
6	(7504)	--->FAA DEPOT				
7	Open	BBU	BBU	BBU		
8	Open	Open	I/OPS	I/OPS		

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(OPEN)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #					
1	(7502)	--->			
2	(OPEN)				
3	(OPEN)				
4	(OPEN)				
5	(OPEN)				
6	Printer Insert	Open	Open	--->	
7	Open	Open	Open	Open	
8	Open	Open	Open	Open	

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	ByteSync Insert	BitSync Insert
3	Open	Printer Insert	BitSync Insert
4	(7501)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 11-1. MIAMI MPS SITE # 11 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #			
1	Printer Insert	Open	Open --->
2	(7501)		--->
3	(7502)		--->
4	(7501)		
5	(7501)		
6	(7504)		--->FAA DEPOT
7	Open	BBU BBU	BBU
8	Open	Open I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(OPEN)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Open	Printer Insert	
3	(OPEN)			
4	(OPEN)			
5	7806	7807	7806	
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 12-1. OAKLAND MPS SITE # 12 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(7502)			
2	(7501)	--->		
3	(7502)	--->		
4	(7501)			
5	(7501)			
6	(7504)	--->FAA DEPOT		
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(7502)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Open	Open	
3	(OPEN)			
4	(OPEN)			
5	7806	7807	7806	
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 13-1. MEMPHIS MPS SITE # 13 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #									
1	(	7	5	0	2	)			
2	(	7	5	0	1	)	--->		
3	(	7	5	0	1	)			
4	(	7	5	0	1	)			
5	(	7	5	0	1	)			
6	7806			7807			7806	--->	
7	Open	BBU		BBU			BBU		
8	Open	I/OPS		I/OPS			I/OPS		

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #									
1	(	7	5	0	2	)			
2	(	O	P	E	N	)			
3	(	7	5	0	1	)			
4	(	7	5	0	1	)			
5	(	7	5	0	1	)			
6	(	7	5	0	1	)			
7	BBU		BBU		BBU		BBU		
8	Open	I/OPS		I/OPS			I/OPS		

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #									
1	(	O	P	E	N	)			
2	(	O	P	E	N	)			
3	(	O	P	E	N	)			
4	(	O	P	E	N	)			
5	(	O	P	E	N	)			
6	(	7	5	0	1	)	--->		
7	Open		Open		Open		Open		
8	Open		Open		Open		Open		

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #									
1	6165-1 Insert		6165-1 Insert		6100 Insert				
2	6100 Insert		Open		Open				
3	(	7	5	0	1	)			
4	(	7	5	0	1	)			
5	7806		7807		7806				
6	Open		Open		Open		Open		
7	Open		Open		Open		Open		

FIGURE 14-1. SEATTLE MPS SITE # 14 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(7501) --->			
2	(7502) --->			
3	BitSync Insert	Printer Insert	Open --->	
4	(7501)			
5	(7501)			
6	(7504) ---> FAA DEPOT			
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(OPEN)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Printer Insert	BitSync Insert	
3	(OPEN)			
4	(OPEN)			
5	7806	7807	7806	
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 15-1. HONOLULU MPS SITE # 15 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(7501) --->			
2	(7502) --->			
3	BitSync Insert	Open	Open --->	
4	(7501)			
5	(7501)			
6	(7504) --->FAA DEPOT			
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(OPEN)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	BitSync Insert
3	(OPEN)		
4	(OPEN)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 16-1. SALT LAKE CITY MPS SITE # 16 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #						
1	(	7	5	0	1)	--->
2	(	7	5	0	2)	--->
3	(	7	5	0	1)	
4	(	7	5	0	1)	
5	(	7	5	0	1)	
6	(	7	5	0	4)	--->FAA DEPOT
7	Open	Open	BBU	BBU		
8	Open	Open	I/OPS	I/OPS		

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #					
1	(	7	5	0	2)
2	(	O	P	E	N)
3	(	7	5	0	1)
4	(	7	5	0	1)
5	(	7	5	0	1)
6	(	7	5	0	1)
7	BBU	BBU	BBU	BBU	
8	Open	I/OPS	I/OPS	I/OPS	

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #					
1	Open	BitSync Insert		Open	--->
2	(	O	P	E	N)
3	(	O	P	E	N)
4	(	O	P	E	N)
5	(	O	P	E	N)
6	(	O	P	E	N)
7	Open	Open	Open	Open	
8	Open	Open	Open	Open	

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	BitSync Insert
3	(	O P E N	)
4	(	7 5 0 1	)
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 17-1. DENVER MPS SITE # 17 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #					
1	(7501)	(7501)	(7501)	(7501)	--->
2	(7502)	(7502)	(7502)	(7502)	--->
3	(7501)	(7501)	(7501)	(7501)	
4	(7501)	(7501)	(7501)	(7501)	
5	(OPEN)	(OPEN)	(OPEN)	(OPEN)	
6	(7504)	(7504)	(7504)	(7504)	--->FAA DEPOT
7	BBU	BBU	BBU	BBU	
8	Open	Open	I/OPS	I/OPS	

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #					
1	(7502)	(7502)	(7502)	(7502)	
2	(OPEN)	(OPEN)	(OPEN)	(OPEN)	
3	(7501)	(7501)	(7501)	(7501)	
4	(7501)	(7501)	(7501)	(7501)	
5	(7501)	(7501)	(7501)	(7501)	
6	(7501)	(7501)	(7501)	(7501)	
7	BBU	BBU	BBU	BBU	
8	Open	I/OPS	I/OPS	I/OPS	

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #					
1	(OPEN)	(OPEN)	(OPEN)	(OPEN)	
2	(OPEN)	(OPEN)	(OPEN)	(OPEN)	
3	(OPEN)	(OPEN)	(OPEN)	(OPEN)	
4	(OPEN)	(OPEN)	(OPEN)	(OPEN)	
5	Printer Insert	BitSync Insert	Open	Open	--->
6	(OPEN)	(OPEN)	(OPEN)	(OPEN)	
7	Open	Open	Open	Open	
8	Open	Open	Open	Open	

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Printer Insert	BitSync Insert	
3	(OPEN)	(OPEN)	(OPEN)	(OPEN)
4	(OPEN)	(OPEN)	(OPEN)	(OPEN)
5	7806	7807	7806	
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 18-1. MINNEAPOLIS MPS SITE # 18 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #						
1	(	7	5	0	2	)
2	(	7	5	0	1	) --->
3	(	7	5	0	1	)
4	(	7	5	0	1	)
5	(	7	5	0	1	)
6	(	7	5	0	4	) --->FAA DEPOT
7	Open	BBU	BBU	BBU		
8	Open	Open	I/OPS	I/OPS		

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #						
1	(	7	5	0	2	)
2	(	O	P	E	N	)
3	(	7	5	0	1	)
4	(	7	5	0	1	)
5	(	7	5	0	1	)
6	(	7	5	0	1	)
7	BBU	BBU	BBU	BBU		
8	Open	I/OPS	I/OPS	I/OPS		

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #						
1	(	O	P	E	N	)
2	(	O	P	E	N	)
3	Open	Open	ByteSync Insert			--->
4	(	O	P	E	N	)
5	(	O	P	E	N	)
6	(	O	P	E	N	)
7	Open	Open	Open	Open		
8	Open	Open	Open	Open		

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	ByteSync Insert	Open
3	(	O P E N	)
4	(	7 5 0 1	)
5	7806	7807	7806
6	Open	Open	Open Open
7	Open	Open	Open Open

FIGURE 19-1. INDIANAPOLIS MPS SITE # 19 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(7501)	--->		
2	(7502)	--->		
3	(OPEN)			
4	(7501)			
5	(7501)			
6	(7504)	--->FAA DEPOT		
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(OPEN)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Open	Open	
3	(OPEN)			
4	(OPEN)			
5	7806	7807	7806	
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 20-1. CLEVELAND MPS SITE # 20 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #							
1	(	7	5	0	1	)	--->
2	(	7	5	0	2	)	
3	(	7	5	0	2	)	--->
4	(	7	5	0	1	)	
5	(	7	5	0	1	)	
6	(	7	5	0	4	)	--->FAA DEPOT
7	Open	BBU	BBU	BBU			
8	Open	Open	I/OPS	I/OPS			

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #						
1	(	7	5	0	2	)
2	(	7	5	0	2	)
3	(	7	5	0	1	)
4	(	7	5	0	1	)
5	(	7	5	0	1	)
6	(	7	5	0	1	)
7	BBU	BBU	BBU	BBU		
8	Open	I/OPS	I/OPS	I/OPS		

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	Open
3	(O P E N)		
4	(O P E N)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 21-1. WASHINGTON MPS SITE # 21 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #							
1	(7502)						
2	Open	Open	BitSync Insert	--->			
3	(7501)						
4	(7501)						
5	(OPEN)						
6	(7504)	---> FAA DEPOT					
7	Open	BBU	BBU	BBU			
8	Open	Open	I/OPS	I/OPS			

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #							
1	(7502)						
2	(OPEN)						
3	(7501)						
4	(7501)						
5	(7501)						
6	(OPEN)						
7	BBU	BBU	BBU	BBU			
8	Open	I/OPS	I/OPS	I/OPS			

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #							
1	6165-1 Insert	6165-1 Insert	6100 Insert				
2	6100 Insert	Open	BitSync Insert				
3	(OPEN)						
4	(OPEN)						
5	7806	7807	7806				
6	Open	Open	Open	Open			
7	Open	Open	Open	Open			

FIGURE 22-1. NEW YORK MPS SITE # 22 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #							
1	(	7	5	0	1	)	--->
2	(	7	5	0	2	)	
3	(	7	5	0	2	)	--->
4	(	7	5	0	1	)	
5	(	7	5	0	1	)	
6	(	7	5	0	4	)	--->FAA DEPOT
7	Open	BBU	BBU	BBU			
8	Open	Open	I/OPS	I/OPS			

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #						
1	(	7	5	0	2	)
2	(	7	5	0	2	)
3	(	7	5	0	1	)
4	(	7	5	0	1	)
5	(	7	5	0	1	)
6	(	7	5	0	1	)
7	BBU	BBU	BBU	BBU		
8	Open	I/OPS	I/OPS	I/OPS		

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	Open
3	(O P E N)		
4	(O P E N)		
5	7806	7807	7806
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 23-1. BOSTON MPS SITE # 23 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(O P E N)			
2	(7 5 0 1)	--->		
3	(O P E N)			
4	(O P E N)			
5	(O P E N)			
6	(O P E N)			
7	Open	Open	Open	Open
8	Open	Open	Open	Open

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(7 5 0 2)			
2	(7 5 0 2)			
3	(7 5 0 1)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	(7 5 0 1)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

PATCH PANEL CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(7 5 0 1)	--->		
2	(7 5 0 2)	--->		
3	(7 5 0 2)	--->		
4	(7 5 0 1)	--->		
5	(7 5 0 1)	--->		
6	(7 5 0 4)	--->FAA DEPOT		
7	Open	BBU	BBU	BBU --->
8	Open	Open	I/OPS	I/OPS --->

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Open	Open	
3	(O P E N)			
4	(7 5 0 1)			
5	7806	7807	7806	
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 24-1. FAA HEADQUARTERS MPS SITE # 24 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(O P E N)			
2	(O P E N)			
3	Printer Insert	BitSync Insert	BitSync Insert	
4	(O P E N)			
5	(O P E N)			
6	(O P E N)			
7	Open	Open	Open	Open
8	Open	Open	Open	Open

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6165-1 Insert
2	6165-1 Insert	6106 Insert	6106 Insert
3	Printer Insert	Bitsync Insert	Bitsync Insert
4	(O P E N)		
5	(O P E N)		
6	7806	7807	7806
7	Open	Open	Open	Open
8	Open	Open	Open	Open

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #					
1	(7 5 0 2)				
2	(O P E N)				
3	(7 5 0 1)				
4	(7 5 0 1)				
5	(7 5 0 1)				
6	(7 5 0 4)	---> FAA DEPOT			
7	Open	BBU	BBU	BBU	
8	Open	Open	I/OPS	I/OPS	

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(7 5 0 2)			
2	(O P E N)			
3	(7 5 0 1)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	(7 5 0 1)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

FIGURE 24-1. FAA HEADQUARTERS MPS SITE # 24 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, BATTERY BACKUP AND I/O POWER SUPPLY UNITS (CONT'D)

EXPANSION CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	6106 Insert	6106 Insert	6106 Insert
2	6106 Insert	6106 Insert	6106 Insert
3	7806	7807	7806
4	(7 8 0 8)		
5	Open	BBU	BBU	BBU
6	Open	I/OPS	I/OPS	I/OPS

FIGURE 25-1. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS (DELIVERY 1)

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(7501)	--->		
2	(7502)	--->		
3	(OPEN)			
4	(7501)			
5	(7501)			
6	(7504)	--->FAA DEPOT		
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(OPEN)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	6100 Insert	
2	6100 Insert	Open	Open	
3	(OPEN)			
4	7806	7807	7806	
5	(7808)			
6	Open	Open	Open	Open
7	Open	Open	Open	Open

FIGURE 25-2. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS (DELIVERY 2)

45 IPS TAPE CABINET LAYOUT
(BEFORE 2ND UPGRADE)

SLOT #			
1	(7502)		
2	(OPEN)		
3	(7501)		
4	(7501)		
5	(7501)		
6	(7501)		
7	BBU	BBU	BBU BBU
8	Open	I/OPS	I/OPS I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER 2ND UPGRADE)

SLOT #			
1	(7502)		
2	(OPEN)		
3	(7501)		
4	(7501)		
5	(7501)		
6	(7501)		
7	BBU	BBU	BBU BBU
8	Open	I/OPS	I/OPS I/OPS

125 IPS TAPE CABINET LAYOUT
(BEFORE 2ND UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	Open
3	(OPEN)		
4	7806	7807	7806
5	(7808)		
6	Open	Open	Open Open
7	Open	Open	Open Open

125 IPS TAPE CABINET LAYOUT
(AFTER 2ND UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	Open	6106P/P Insert
3	6106P/P Insert	6106P/P Insert	6106P/P Insert
4	7806	7807	7806
5	(7808)		
6	Open	Open	Open Open
7	Open	Open	Open Open

FIGURE 25-2. FAA TECHNICAL CENTER (ACT-110) MPS SITE # 25 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS (DELIVERY 2) (CONT'D)

EXPANSION CABINET LAYOUT
(AFTER 2ND UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6165-1 Insert
2	(O P E N)		
3	(O P E N)		
4	7806	7807	7806
5	BBU	BBU	BBU	BBU
6	BBU	I/OPS	I/OPS	I/OPS

FIGURE 26-1. FAA TECHNICAL CENTER (ASM-160) MPS SITE # 26
PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(7502)			
2	Printer Insert	Open	BitSync Insert	
3	(7501)			
4	(7501)			
5	(7501)			
6	(7504)			--->FAA DEPOT
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(7502)			
2	Printer Insert	Open	Bitsync Insert	
3	(7501)			
4	(7501)			
5	(7501)			
6	(7501)			
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	6165-1 Insert	6100 Insert
2	6100 Insert	6165-1 Insert	6165-1 Insert
3	7806	7807	7806
4	6106P/P Insert	6106P/P Insert	Open
5	7806	7807	7806
6	Open	Open	BBU	BBU
7	Open	Open	Open	Open

FIGURE 27-1. MIKE MONRONEY AERONAUTICAL CENTER (AAC-940) MPS SITE # 27 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(7502)			
2	BitSync Insert	Printer Insert	Open--->	
3	(7501)			
4	(7501)			
5	(7501)			
6	(7504) --->			
7	Open	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(7502)			
2	(7501)			
3	(7501)			
4	(7501)			
5	(7501)			
6	(OPEN)			
7	Open	Open	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	6165-1 Insert	Open	6100 Insert
2	Open	6106P/P Insert	6106P/P Insert
3	Bitsync Insert	Printer Insert	Open
4	(OPEN)		
5	7806	7807	7806
6	BBU	BBU	BBU	BBU
7	Open	Open	Open	Open

FIGURE 28-1. MIKE MONRONEY AERONAUTICAL CENTER (ASM-150)
MPS SITE # 28 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS,
AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #					
1	(O P E N)				
2	Open	BitSync Insert	BitSync Insert		
3	(O P E N)				
4	(7 5 0 1)				
5	(7 5 0 1)				
6	(7 5 0 4)				--->FAA DEPOT
7	Open	Open	BBU	BBU	
8	Open	Open	I/OPS	I/OPS	

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	6165-1 Insert	6165-1 Insert	Open Insert	
2	Open	Bitsync Insert	BitSync Insert	
3	6106P/P Insert	6106P/P Insert	Open	
4	(7 5 0 1)			
5	(7 5 0 1)			
6	7806	7807	Open	
7	BBU	BBU	BBU	BBU
8	Open	I/OPS	I/OPS	I/OPS

PATCH PANEL CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(O P E N)			
2	(O P E N)			
3	(7 5 0 1)			
4	(O P E N)			
5	(O P E N)			
6	(O P E N)			
7	Open	Open	Open	Open
8	Open	Open	Open	Open

FIGURE 29-1. DALLAS/FT. WORTH MPS SITE # 29 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #			
1	(7502)		
2	(7501)		
3	(7501)		
4	(7501)		
5	(7501)		
6	(7504)	---->FAA DEPOT	
7	Open	Open	BBU BBU
8	Open	Open	I/OPS I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	(7502)		
2	(7501)		
3	(7501)		
4	(7501)		
5	(7501)		
6	7806	7807	Open
7	BBU	BBU	BBU BBU
8	Open	Open	I/OPS I/OPS

FIGURE 30-1. MEMPHIS MPS SITE # 30 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	Open	BitSync Insert	BitSync Insert	
2	(7 5 0 2)			
3	(7 5 0 1)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	(7 5 0 4)			--->FAA DEPOT
7	Open	Open	BBU	BBU
8	Open	Open	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	Open	BitSync Insert	BitSync Insert	
2	(7 5 0 2)			
3	(7 5 0 1)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	7806	7807		Open
7	BBU	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

FIGURE 31-1. NORFOLK MPS SITE # 31 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #			
1	Printer Insert	BitSync Insert	BitSync Insert
2	(7 5 0 2)		
3	(7 5 0 1)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	(7 5 0 4) ---->FAA DEPOT		
7	Open	Open	BBU BBU
8	Open	Open	I/OPS I/OPS

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	Printer Insert	BitSync Insert	BitSync Insert
2	(7 5 0 2)		
3	(7 5 0 1)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	7806	7807	Open
7	BBU	BBU	BBU BBU
8	Open	Open	I/OPS I/OPS

FIGURE 32-1. WINDSOR LOCKS MPS SITE # 32 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #			
1	(O P E N)		
2	Printer Insert	BitSync Insert	BitSync Insert
3	(O P E N)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	(7 5 0 4)	---->FAA DEPOT	
7	Open	Open	BBU BBU
8	Open	Open	I/OPS I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	(O P E N)		
2	Printer Insert	BitSync Insert	BitSync Insert
3	(O P E N)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	7806	7807	Open
7	BBU	BBU	BBU BBU
8	Open	Open	I/OPS I/OPS

FIGURE 33-1. DETROIT MPS SITE # 33 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(O P E N)			
2	Printer Insert	BitSync Insert	BitSync Insert	
3	(O P E N)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	(7 5 0 4)			--->FAA DEPOT
7	Open	Open	BBU	BBU
8	Open	Open	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(O P E N)			
2	Printer Insert	BitSync Insert	BitSync Insert	
3	(O P E N)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	7806	7807	Open	
7	BBU	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

FIGURE 34-1. ST. LOUIS MPS SITE # 34 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

45 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #			
1	ByteSync Insert	Open	Open
2	(O P E N)		
3	(7 5 0 2)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	(7 5 0 4) ---> FAA DEPOT		
7	Open	Open	BBU BBU
8	Open	Open	I/OPS I/OPS

45 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	ByteSync Insert	Open	Open
2	(O P E N)		
3	(7 5 0 2)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	7806	7807	Open
7	BBU	BBU	BBU BBU
8	Open	Open	I/OPS I/OPS

FIGURE 35-1. WICHITA MPS SITE # 35 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #				
1	(O P E N)			
2	Printer Insert	BitSync Insert	BitSync Insert	
3	(7 5 0 2)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	(7 5 0 4)			--->FAA DEPOT
7	Open	Open	BBU	BBU
8	Open	Open	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #				
1	(O P E N)			
2	Printer Insert	BitSync Insert	BitSync Insert	
3	(7 5 0 2)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	7806	7807		Open
7	BBU	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

FIGURE 36-1. DENVER MPS SITE # 36 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #			
1	(O P E N)		
2	Printer Insert	BitSync Insert	BitSync Insert
3	(7 5 0 2)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	(7 5 0 4)		--->FAA DEPOT
7	BBU	BBU BBU	BBU
8	Open	Open I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	(O P E N)		
2	Printer Insert	BitSync Insert	BitSync Insert
3	(7 5 0 2)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	7806	7807	Open
7	BBU	BBU BBU	BBU
8	Open	Open I/OPS	I/OPS

45 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #			
1	(O P E N)		
2	(7 5 0 2)		
3	(7 5 0 2)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	(7 5 0 4)		--->FAA DEPOT
7	Open	Open Open	Open
8	Open	Open Open	Open

45 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #			
1	(O P E N)		
3	(7 5 0 2)		
3	(7 5 0 2)		
4	(7 5 0 1)		
5	(7 5 0 1)		
6	(O P E N)		
7	Open	Open Open	Open
8	Open	Open Open	Open

FIGURE 37-1. EDWARDS MPS SITE # 37 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT (BEFORE UPGRADE)

SLOT #				
1	(O P E N)			
2	Printer Insert	BitSync Insert	Open	
3	(O P E N)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	(7 5 0 4)			--->FAA DEPOT
7	Open	Open	BBU	BBU
8	Open	Open	I/OPS	I/OPS

125 IPS TAPE CABINET LAYOUT (AFTER UPGRADE)

SLOT #				
1	(O P E N)			
2	Printer Insert	BitSync Insert	Open	
3	(O P E N)			
4	(7 5 0 1)			
5	(7 5 0 1)			
6	7806	7807	Open	
7	BBU	BBU	BBU	BBU
8	Open	Open	I/OPS	I/OPS

FIGURE 38-1. FAIRBANKS MPS SITE # 38 PLACEMENT OF PATCH PANELS, PATCH PANEL INSERTS, AND BATTERY BACKUP AND I/O POWER SUPPLY UNITS

125 IPS TAPE CABINET LAYOUT
(BEFORE UPGRADE)

SLOT #			
1	Printer Insert	BitSync Insert	BitSync Insert
2	(7502)		
3	(7501)		
4	(OPEN)		
5	(7501)		
6	(7504) ---->FAA DEPOT		
7	Open	Open	BBU BBU
8	Open	Open	I/OPS I/OPS

125 IPS TAPE CABINET LAYOUT
(AFTER UPGRADE)

SLOT #			
1	Printer Insert	BitSync Insert	BitSync Insert
2	(7502)		
3	(7501)		
4	(OPEN)		
5	(7501)		
6	7806	7807	Open
7	BBU	BBU	BBU BBU
8	Open	Open	I/OPS I/OPS

APPENDIX 6. LIST OF ACRONYMS

AAC-400	FAA Depot, Mike Monroney Aeronautical Center
AAC-480	Supply Management Branch, FAA Depot
AAC-900	FAA Academy, Mike Monroney Aeronautical Center
AAC-940	Airway Facilities Branch, FAA Academy
AAF	Associate Administrator for Airway Facilities
AAF-2	Deputy Associate Administrator for Airway Facilities
AC	alternating current
ACCC	Area Control Computer Complex
ACT-100	Engineering Division, FAA Technical Center
ACT-110	Flight Information Systems Branch, Engineering Division, FAA Technical Center
ADCCP	Advanced Data Communication and Control Procedure
AF	Airway Facilities
AFS	Airway Facilities Sector
ALG	Acquisition and Materiel Service
ALG-300	Contracts Division, Acquisition and Materiel Service
ALG-310	Air Traffic Control/Flight Information Branch, Contracts Division
ANSI	American National Standard Institute
APS	Program Engineering Service
APS-1	Director, Program Engineering Service

APS-100	Facilities Integration Division, Program Engineering Service
APS-400	Navigation/Landing and Facility Monitoring Division, Program Engineering Service
APS-410	Software and Program Support Program, Navigation/Landing and Facility Monitoring Division
APS-430	Maintenance Processors Program, Navigation/Landing and Facility Monitoring Division
APT	Office of Personnel and Technical Training
APT-300	Technical Training Division, Office of Personnel and Technical Training
ARTCC	Air Route Traffic Control Center
ASM	Systems Maintenance Service
ASM-100	Maintenance Engineering Division, Systems Maintenance Service
ASM-150	National Airway Engineering Field Support Sector, Maintenance Engineering Division
ASM-160	National Automation Engineering Field Support Sector, Maintenance Engineering Division
ASM-161	Systems Engineering Branch, National Automation Engineering Field Support Sector
ASM-165	AFSS/RMM Engineering Branch, National Automation Engineering Field Support Sector
ASM-200	Maintenance Operations Division, Systems Maintenance Service
ASM-210	AF Workforce Requirements Program, Maintenance Operations Division
ASM-220	Information Management Program, Maintenance Operations Division

ASM-230	Planning and Budgeting Program, Maintenance Operations Division
ASM-300	Telecommunications Management and Operations Division, Systems Maintenance Service
ATC	Air Traffic Control
BBU	Battery Backup Unit
BDL	Three-Letter Designator for Windsor Locks AFS
BPI	bits per inch
BPS	bits per second
BTU	British Thermal Unit
CAI	Contractor Acceptance Inspection
CBI	Computer-Based Instruction
CC	Channel and Diagnostic Data Transceiver
CCB	Configuration Control Board
CCD	Configuration Control Decision
CLIP	Communications Line Interface Processors
CM	Configuration Management
CO	Contracting Officer
COTR	Contracting Officer Technical Representative
COTS	Commercial-off-the-Shelf
DEN	Three-Letter Designator for Denver AFS
DFW	Three-Letter Designator for Dallas Ft. Worth AFS
DMN	Data Multiplexing Network
DO	Delivery Order

DOT	Department of Transportation
DRR	Deployment Readiness Review
DTW	Three-Letter Designator for Detroit AFS
EEM	Electronic Equipment Modification
EIA	Electrical Industry Association
F	Fahrenheit
FAA	Federal Aviation Administration
FAI	Three-Letter Designator for Fairbanks AFS
FMDT	Fixed Maintenance Data Terminal
FSDPS	Flight Service Data Processing System
FY	Fiscal Year
GNAS	General NAS
HVAC	Heating, Ventilation and Air Conditioning
Hz	Hertz
IAW	in accordance with
ICD	Interface Control Document
ICT	Three-Letter Designator for Wichita AFS
ILSP	Integrated Logistic Support Plan
IMCS	Interim Monitor and Control Software
in	Inch
IP	Instruction Processor
IPS	inches per second
IRD	Interface Requirements Document

JAI	Joint Acceptance Inspection
K	Thousand
KB	Kilobyte
Keysite	A system operating in a live NAS environment used for pre-testing new or modified hardware and/or software
lbs	Pounds
LCN	Logistic Control Number
LIU	Line Interface Unit
LOA	Letter of Agreement
LRU	Line Replaceable Unit
ma	Milliampere
MB	Megabyte
MCS	Monitor and Control Software
MCC	Maintenance Control Center
MCCP	Maintenance Control Center Processor
MDT	Maintenance Data Terminal
MEM	Three-Letter Designator for Memphis AFS
MMC	Maintenance Monitoring Console
MMS	Maintenance Management System
MPS	Maintenance Processor Subsystem
ms	Milli-second
msl	mean sea level
MSN	Message Switching Network

NADIN	National Airspace Data Interchange Network
NAILS	National Airspace Integrated Logistic Support
NAILSMT	NAILS Management Team
NAPRS	NAS Automated Performance Reporting System
NAS	National Airspace System
National Support Site	A site operating in a non-NAS environment which provides various types of support to live NAS field facilities
NCC	National Communications Center
NCP	NAS Change Proposal
NICS	National Interfacility Communications System
NMCE	Network Management and Control Equipment
NRZI	Non-return to Zero Inverted
NS	NonStop
NSN	National Stock Number
ORF	Three-Letter Designator for Norfolk AFS
OSI	Open System Interconnect
OSP	Operations and Service Processor
OT&E	Operational Test and Evaluation
PA	Project Authorization
PCB	Printed Circuit Board
PDS	Proficiency Development Specialist
PE	Phase Encoding
PIP	Project Implementation Plan

PMDT	Portable Maintenance Data Terminal
PSRB	Program Status Review Board
PTD	Provisioning Technical Documentation
RMMS	Remote Maintenance Monitoring System
RMS	Remote Monitoring Subsystem
SEIC	System Engineering and Integration Contractor
SFO	Sector Field Office
SI	System Integrator
SMP	System Maintenance Processor
SPB	Site Program Bulletin
SQ	Sequencer and Control Store
SS	System Specification
STL	Three-Letter Designator for St. Louis AFS
STP	Subsystem Training Plan
TMDS	Tandem Maintenance Diagnostic System
TMDT	Transportable Maintenance Data Terminal
VSCS	Voice Switching and Control System
WJF	Three-Letter Designator for Edwards AFB
ZAB	Three-Letter Designator for Albuquerque ARTCC
ZAN	Three-Letter Designator for Anchorage ARTCC
ZAU	Three-Letter Designator for Chicago ARTCC
ZBW	Three-Letter Designator for Boston ARTCC
ZDC	Three-Letter Designator for Washington ARTCC

ZDV	Three-Letter Designator for Denver ARTCC
ZFW	Three-Letter Designator for Dallas Ft. Worth ARTCC
ZHN	Three-Letter Designator for Honolulu ARTCC
ZHU	Three-Letter Designator for Houston ARTCC
ZID	Three-Letter Designator for Indianapolis ARTCC
ZJX	Three-Letter Designator for Jacksonville ARTCC
ZKC	Three-Letter Designator for Kansas City ARTCC
ZLA	Three-Letter Designator for Los Angeles ARTCC
ZLC	Three-Letter Designator for Salt Lake City ARTCC
ZMA	Three-Letter Designator for Miami ARTCC
ZME	Three-Letter Designator for Memphis ARTCC
ZMP	Three-Letter Designator for Minneapolis ARTCC
ZNY	Three-Letter Designator for New York ARTCC
ZOA	Three-Letter Designator for Oakland ARTCC
ZOB	Three-Letter Designator for Cleveland ARTCC
ZSE	Three-Letter Designator for Seattle ARTCC
ZSU	Three-Letter Designator for San Juan ARTCC
ZTL	Three-Letter Designator for Atlanta ARTCC